AN EVALUATION OF CHILDREN'S COOPERATIVE AND COMPETITIVE ATTITUDES, THEIR INTRINSIC MOTIVATION, AND THEIR DIFFERENT ACHIEVEMENT GOALS IN THE SPORTS EDUCATION PROGRAMME-KIWISPORT.

by

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TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

This study was designed to investigate the effects of the New Zealand Sports Education Programme - KiwiSport- on the cooperative and competitive attitudes of children in sport, their intrinsic motivation, and also their different achievement orientations. Two strong and two weak KiwiSport schools were selected, and the students' attitudes compared using the Sports Attitude Questionnaire, which was designed for this study. The Task-and-Ego-Orientation questionnaire (Duda & Nicholls, 1989) was also used to assess the student's achievement goals. One all boys catholic school, and one all girls catholic school were also compared to look for any sex differences. Four hundred and seventy students from six schools completed the questionnaire. This data was then used to determine any overall sex differences, and any age differences. The results indicated that KiwiSport is positively influencing a cooperative attitude. There was also partial support that it is decreasing a win-at-all-costs attitude, and increasing intrinsic motivation. However, KiwiSport does not appear to be affecting achievement goals. The first sex difference study found females to be more task-involved, and males to be more noncooperative. In the second sex difference study (all six schools) males again scored higher on noncooperation, and also on ego-orientation. Females scored higher on noncompetition. The age difference study revealed a trend for a less competitive score, and a more cooperative score, the older the child. This study provided additional support for Duda & Nicholls (1989) theory and also their Task-and-Ego-Orientation questionnaire. Both scales were found to have significant reliability correlations. The students from all six schools were found to score very high on cooperation, task-involvement, and intrinsic motivation. The reasons and implications for this are discussed.

CHAPTER ONE

INTRODUCTION

Sport should be a valuable experience in a developing child's life. It promotes growth and body awareness, increases fitness levels and enhances physical health. It also provides opportunities for the development of personal and social skills, and physical skills which enable one to gain mastery over the surrounding environment. Piaget & Inhelder (1969) further pointed out the importance of active play in fostering cognitive development. Sport is an ideal arena for children to develop a positive self-concept, greater self-confidence, and to gain peer group acceptance from being part of a team.

How sport participation effects the psychosocial development of children has been an important and popular area of research within the realm of sport psychology. Of particular importance has been the issue of organised competitive sport for children under the age of thirteen years. Many people express concern that competition places too much stress on children of this age, and that sport should concentrate more on learning the skills of the games and promoting enjoyment, rather than placing a heavy emphasis on winning.

This has led to many theorists recommending a more cooperative game structure for developing children. This thesis will investigate the issue of children in sport, in particular competition and cooperation, intrinsic motivation, children's different achievement goals, and also an evaluation of the current sports programme being run in New Zealand schools- KiwiSport.

CHAPTER TWO

LITERATURE REVIEW

2.1 Cooperation and Competition

There has been a great amount of research carried out on cooperation and competition which is not surprising considering that they could be seen as the very foundation stones of human social life. It is difficult to imagine any social behaviour, no matter how simple or complex, which is neither cooperative nor competitive in origin. This is because human beings, when relating to others, tend to act either towards promoting the common interest or to giving themselves an advantage at the expense of others.

Despite the vast number of studies carried out on cooperation and competition, surprisingly few have tackled the problem of definition, or their relation to one another. As one construct is rarely discussed without reference to the other the two are often seen as opposite poles on a single continuum. Indeed a large number of studies in the area have treated them as a bipolar dimension. Conversely, many psychological studies have focused on outcome variables and made no attempt to define the terms. This has obviously led to large inconsistencies in the research.

Most investigators who have defined cooperation and competition in their research have used their theoretical framework to determine how they define the two constructs. The behaviourist definition, for example, operationalises

cooperation in terms of synchronous motor responses. That is, the simple alternation of responses by two or more individuals, or as Keller & Schoenfeld (1950) put it "the case in which the combined behaviour of two or more organisms is in some way needed to procure positive or remove negative reinforcement". This definition obviously avoids the qualitative aspects of social interaction, and may be seen as a simplified approximation of complex cooperative behaviour.

Definitions which include social as well as situational factors are broader and attempt to include many different variables. Theorists, however, disagree as to the conditions necessary to characterise behaviour as either cooperative or competitive. Deutsch (1949) proposed that the differences between cooperative and competitive situations was in the nature of goal attainment. In a cooperative situation the individual attains the goal only if all other individuals can also attain the goal; in the competitive situations, however, goal attainment by other individuals is excluded.

Both these nature-of-the-goal definitions and the former behaviourist definitions imply a bipolar dimension with cooperation and competition at opposite poles. However, Cook & Stingle (1974) argue that cooperation and competition may not be on a single continuum and provide evidence to disclaim this theory.

Firstly, they state, cooperative behavior as previously defined could be accompanied by any other attitude, including competition. Secondly, the absence of cooperative behaviour does not necessarily imply the presence of competitive behaviour. Indeed, Brotsky & Thomas (1967) found an increase in cooperative responses (defined as synchronous motor responses) to be accompanied by an increase in noncooperative responses. Finally, a person

may exhibit both cooperative and competitive behaviours in certain situations. For example, an individual playing a team sport cooperates (and possibly competes) with his/her own team mates, but competes with opposing team players.

Therefore, they conclude, cooperation and competition cannot be viewed as either opposite poles along a single continuum, or as mutually exclusive characteristics. Likewise, Johnson & Ahlgren (1976) believe cooperation and competition to be independent of one another, and state that an individual can be high or low on both variables.

There has been great debate as to the conceptualisation of cooperation and competition and their relation to one another, but it would appear that the two are best considered as independent constructs.

2.2 Cooperation

"The truth is that the vast majority of human interaction in our society as well as in all other societies, is not competitive but cooperative interaction" (Johnson & Johnson, 1981).

Numerous studies have demonstrated that a cooperative environment influences a child's orientation towards cooperating, sharing and getting along well with others.

Deutsch (1949) was one of the first researchers to demonstrate experimentally that cooperative learning structures lead to greater harmony among people than do competitive learning structures. Stendler, Damrin & Haines (1951) also

found that what made young children cooperative or competitive was primarily a function of the social situation to which they were exposed.

A study carried out by Sherif (1956) showed how a group of supposedly "normal", well-adjusted 12 year old boys could become extremely hostile towards opposing group members, when one group could achieve its aims, only at the expense of the other group. However, when the groups were brought together to work towards a common end, harmony was again restored.

Aaronson (1975) conducted a series of studies to test this principle in the classroom. The results indicated that cooperative interdependent learning led to improvements in self-esteem, to feelings of increased importance in school, and to a fostering of group affection and friendship.

A cooperative structure in schools has also been found to benefit achievement levels. Johnson, Maruyama, Johnson, Nelson, & Skon (1981) the leading researchers on cooperative learning structures carried out a meta-analysis on the effects of cooperation, competition, and individualistic goal structures on achievement. They found that cooperation promoted higher achievement than either interpersonal competition or individualistic efforts.

Their research also showed that in thirty-five of thirty-seven studies, the students tended to like each other more when they worked together cooperatively in the classroom. Even more importantly, handicapped children, and students from different ethnic backgrounds were more likely to be accepted and well-liked within their peer groups when in a cooperative learning structure.

Similar results have been found using the physical medium of play and games as a means of influencing positive cooperative socialisation among children (Orlick, 1981). A well-designed cooperative games programme has been shown to effectively increase spontaneous, cooperative behaviour in both preschool and elementary school children.

Cooperative games have been found to be especially good for those children who are shy or withdrawn and lack the confidence to otherwise get involved in sport. These games help the child develop a stronger self-concept and greater self-esteem (Orlick, 1981).

The principle aim of these cooperative games is to encourage children to play with one another rather than against one another. For example, the traditional game of 'king of the mountain' involves one person being 'king' while all the other players are shoved down the mountain. This is a competitive structure for only one person is able to be at the top of the mountain and all players are competing against each other for this goal. However, in the cooperative version of this game 'People of the mountain', the rules are reversed. The children instead play together in order to get as many people to the top of the mountain as possible. This game eliminates any competitive pressure and encourages cooperation and sharing (Orlick, 1981).

Orlick (1978) led children from preschool through to 2nd grade in a cooperative games programme. He found a 3-4 fold increase in the incidence of cooperative behaviour when the children were later left to play by themselves. The control groups, however, became steadily more competitive.

It is hoped that by engaging in cooperative games children will learn prosocial values which will overflow into their everyday life. This aim indeed seems to

be supported by the research. An increase in cooperative behaviour, not only in the games, but also in the classroom and in the childs free-time has been demonstrated (Jensen,1979; Orlick, 1981; Orlick & Foley, 1976; Slack, 1978; Witt, 1980).

2.3 Competition

" A noncompetitive society would represent a bland experience.... a waveless sea of nonachievers.... the psychological retreat of a person.... into a cocoon of false security and self-satisfied mediocrity." (Spiro Agnew 1979).

One of the greatest concerns when it comes to children in sport, is the question of competition. Many people are worried about the social psychological effects of competition on the developing personality of the child. At one extreme of the debate are those who claim that competition is natural, healthy and exposes children to team discipline and success/failure experiences which are essential to the development of a sound personality and the preparation to live in our society. At the other extreme, however, competition is viewed as psychologically damaging to the moral and social development of the child.

Many people believe that competition brings out the best in us. To compete is to strive for excellence, to be better than the rest, to pursue ones fullest potential. This is then seen to lead to a more successful and achieving society. However, at its worst, competition can pit person against person, leading to intense rivalry which can become destructive to both parties.

Whether competition is seen as a positive or a negative aspect of life, the fact remains that it is a pervasive process in our everyday existence. Whether it be

at work, in leisure, or even in the family environment, people seem intent on trying to outdo others. Indeed, competition has become ritualised within a variety of institutions, particularly those that place a high emphasis on achievement.

It is in the field of sport and games that this institutionalised formal organisation of competition has been seen to adversely effect young children. Many people believe that organised competitive sport for children places far too many demands on the child's physical, emotional, and cognitive capacities (Roberts, 1980).

It is important to remember that competition is considered to be an evaluative social process. It is evaluative in that the performance of the individual or team is favourably or unfavourably evaluated as achieving the goal or standard of excellence by present others- peers, parents, teachers, coaches etc (Martens, 1975).

As developing children have had fewer past experiences on which to base their perceptions of ability, they are very dependent on information from others. Therefore, social evaluation from peers and adults is particularly important to children, and increases in importance from the age of 4-5 yrs onwards (Masters,1972; Veroff, 1969). This heightened awareness of performing well in comparison with others reaches its peak around the ages of 9-12 yrs (Cook & Stingle,1974; Kagan & Madsen, 1972). This age group, especially boys, attach great importance to sporting prowess, and those individuals who excell tend to be greatly admired by their peers.

As ability is often related to physiological maturity in the developing child, the inequality which comes to play in competitive sport is particularly unfortunate

for those children whose physiological development is not as mature as their peers. In an intensely evaluative situation these children may be put off sport altogether, even though as they matured they may have become very successful in sport.

Likewise, Roberts (1980) argues that in competitive sport, high achievers tend to be encouraged at the expense of others. He recommends non-competitive sports for children under the age of 13 years, in order to maintain all children's interest and motivation, and to decrease the number of drop-outs in sport each year.

Scanlan (1988), on the other hand, maintains that the evaluative information gained from competitive sport can be useful to the child, if it is kept in the right perspective by significant others eg. parents, teachers and coaches. If children do continually receive negative comparative appraisal in sport, but are given positive support and guidance from their coaches and parents, then they may still benefit from the competitive experience. Indeed they may learn to accept their capabilities and limitations, and set themselves personal achievement goals rather than having to beat others in order to feel successful (Scanlan, 1988).

Scanlan further states that competition cannot be isolated from the child's whole socialisation process. The child's competence in other evaluative achievement situations, along with the role of significant others, must be considered in the long-term consequences of competitive sport.

Obviously the social evaluation involved in competitive sport can be very stressful for children, especially those weak in sport. However, it is likely that

the emphasis the child's culture and significant others place on competition will determine whether the child perceives the evaluation as stressful or rewarding.

Another major problem with competition occurs when a preoccupation with winning (beating others) leads to a lack of concern towards fairplay. In the words of Nicholls (1989) "when winning is everything, it is worth doing anything to win". This win-at-all-costs attitude may lead to what are usually regarded as poor sporting behaviours, such as cheating and aggressive play. High anxiety, and loss of self esteem in the face of failure are also common when an individual has this attitude in the competitive arena.

By organising children's sports into a competitive situation children are both placed in a potentially stressful evaluation process and run the risk of developing a win-at-all-costs attitude towards sport. Whether the possible benefits of competitive sport are worth the risk of these negative effects is debatable.

2.4 Previous Studies in Cooperation and Competition

Galejs & Stockdale (1980a, 1980b, 1982) carried out a series of studies designed to test the hypothesis that some children would prefer a cooperative stance while others would demonstrate a competitive disposition, if only their preferences were obtained. A self-report measure was employed to remove visible social pressure from peers and/or adults. It was also hoped that this method would eliminate the social desirability factor as well as the reward and failure components which often influence behaviours in a given situation.

In this research, a cooperative response was defined as the orientation to share the attainment of a goal and its rewards; a competitive response was the orientation to achieve a goal and deprive others from achieving that goal.

In order to measure children's preferences for competitive or cooperative stategies the Social Behavior Inventory was developed. This instrument depicted 35 different home and school situations, and for each situation a cartoon-like picture and an anecdote were presented to the child. Depending on their own preference, the child chose either a cooperative or a competitive response. Thus, the constructs were presented as bipolar dimensions.

The results consistently showed that children preferred cooperative choices over competitive choices, and that girls chose more cooperative responses than boys (Galejs & Stockdale 1980a,1980b,1982). Interestingly, validation through parental ratings yeilded significant correlations, indicating that parents recognised the cooperative-competitive stance of their children.

The inventory was found to be reliable (r=.87), but the strength of the relationships with other methods of measurement of these traits did not support the idea of a cooperative and/or competitive disposition in children. As the instrument presented each item as a separate home or school situation, the children's responses may have been item-specific. Also, as previously discussed, the forced choice between cooperative or competitive preferences may have been too limiting in delineating a general preference for one behaviour over the other. Indeed, Pepitone (1980) stated that the expression of cooperation and competition are two different social behaviours and choosing one over the other would depend on many variables.

Stockdale, Galejs & Wolins (1983) therefore revised the instrument to present cooperation and competition items independently. Furthermore, they decided that the instrument would be more sensitive to the measurement of cooperation and competition if the presence and absence of the constructs were measured (eg. cooperation-noncooperation). The revised instrument thus presented cooperation, noncooperation, competition and noncompetition items independently and a 5-point scale was used to allow for differences in the strength of response.

The following definitions were used for the constructs of the study: competition- attaining a goal in a social situation in which the remaining individuals were excluded from achieving the goal; noncompetition- not working towards goals in situations which exclude other individuals from also obtaining that goal or reward; cooperation- attaining goals only if all other individuals can also attain the goal, and; noncooperation- preference of the individual not to work towards a common group goal (Stockdale, Galejs & Wolins, 1983).

The results from this study showed that the cooperative-competitive preference measure was associated with some school behaviours. In particular, the relationships indicated that cooperative attitudes were more facilatating of a positive school experience than were competitive attitudes. This finding is supported by many studies which have found positive relationships between cooperative attitudes, cooperative learning experiences and enhanced school functioning (Skon, Johnson & Johnson, 1981; Johnson, Johnson & Tauer,1979; Slavin, 1980).

There was a lack of significant correlation between the children's cooperative-competitive preferences. Stockdale, Galejs & Wolins (1983) took their results to

suggest support for Pepitone's (1980) claim that cooperation and competition represent separate social fields.

This study also demonstrated that parents and teachers observed similar behaviours in children at home and at school respectively. This indicates that children exhibit the same behaviours across situations.

Research by Jensen & Moore (1977) also found evidence that cooperation and/or competition may become an enduring personality trait. In their study, boys who were told prior to a game situation that they were either cooperative or competitive, played the game in a manner to fit the attribute to which they had been assigned. This finding further signifies the importance of socialisation, and the role of significant others, on the development of a competitive or cooperative disposition.

2.5 Sex and Age Differences in Cooperation and Competition

Despite the largely inconsistent findings in the research, due to the variety of different operational definitions in cooperative and competitive behaviour and attitudes, two generalizations can be made from the literature. Firstly, girls are more cooperative and less competitive than boys, and secondly, competition increases with age during early and middle childhood.

In the study by Stockdale, Galejs & Wolins (1983) girls were found to consistently perceive themselves as more cooperative than boys. This finding is supported by numerous research studies (Ahlgren & Johnson,1979; Galejs & Stockdale, 1980b; McClintock & Moskowitz,1976), and also follows the traditionally reported sex differences (Macoby & Jacklin, 1974). That is, girls are

rewarded more for being cooperative than are boys. On the other hand, boys are rewarded more for being competitive than are girls. However, this study, contrary to previous research findings, did not find any significant sex differences in competitive preferences (Stockdale, Galejs & Wolins, 1983).

Ahlgren & Johnson (1979) carried out a study using the Minnesota School Affect Assessment (a scale developed to measure student attitudes). The females in their sample, at all age levels, reported more positive attitudes toward cooperation in school, and less positive attitudes toward competition in school, than did the males. At all age levels, females showed a greater preference for cooperation over competition, and males showed a greater preference for competition over cooperation. These results support the majority of research findings, and also the direction of research findings on sex role stereotyping and socialisation.

Interestingly, Ahlgren & Johnson also found a marked increase in female subjects preference for cooperation over competition in the gades 8,9 and 10. They speculated that this was due to the females struggling to reorganise their sex role identification. Many researchers have reported that females often fear that success in competitive sport will lead to such negative consequences as loss of femininity and loss of popularity (Horner, 1969).

Ahlgren & Johnson (1979) study of students in the Mid West did not find competition to increase with age, but rather both competition and cooperation decreased from the 2nd through to the 12th grade. Herndon & Carpenter (1982) used the same instrument (MSAA) on students in New York City and also found cooperation to decrease across grades, but competition steadily increased. These conflicting results for competition suggest that socialisation could be an important factor. The New York City students had higher and

increasing scores for competition which supports the common impression that life in New York City is much more competitive than life in the Mid West.

Knight & Kagan (1981) hypothesize that the conflicting research findings in regard to sex differences is in fact due to using dependent measures which confound individualism with either cooperation or competition. Individualism is defined as the preference for maximising ones own gains irrespective of the gains of others. Knight & Kagan (1981) state that girls show a greater preference for individualistic alternatives than boys, and predict that girls will appear to be more cooperative than boys on measures which confound individualistic and cooperative alternatives. However, on measures which confound individualistic and competitive alternatives, girls will appear less cooperative than boys.

Knight & Kagan (1981) tested their hypothesis with a set of choice cards that systematically mixed individualistic alternatives with either cooperative or competitive choices. As they had expected, their results found girls to be consistently more individualistic than boys, and appearing to be more cooperative or competitive than boys, depending on which alternative was confounded with individualism.

While Knight & Kagan (1981) explain the contradictory findings in the literature as being due to individualistic outcomes being confounded with cooperation and competition, Skon, Johnson & Johnson (1981) have other ideas. They believe that there is very little difference between competition and individualistic efforts in relation to achievement and cognitive reasoning stategies. On the other hand, Ames (1981) suggests that the intervening variable influencing childrens responses across all cooperative and competitive

situations, when the individualistic component is controlled for, is either reward or failure.

Clearly there is much debate as to the conceptualisation of cooperation and competition regarding definitions and component behaviours. However, it would seem likely that the choice to compete or to cooperate would lie in the individual's social orientation and in the attractiveness of the reward.

2.6 Cross-cultural Differences in Cooperation and Competition

Cross-cultural studies on cooperative, competitive and individualistic communication patterns in children have found wide differences between children of traditional and westernized communities. The number of experimental techniques which have found essentially the same thing give confidence to the conclusion that people from cultures which enjoin cooperation, such as rural and traditional people and Kibbutz children in Israel, tend to act cooperatively; while people from urban, westernized communities display more competitive and individualistic behaviours (Kagan & Madsen, 1971; Knight & Kagan, 1977; Madsen, 1971).

The Japanese, in particular, place great emphasis on cooperation and interpersonal harmony within their educational system. In the US, however, leadership in peer interactions and verbal assertiveness is highly valued (Halloway, 1988). As would be expected, Japanese children show a greater preference for cooperative behaviour, while American students are much more competitively orientated (Halloway,1988). The Japanese Education system has also sparked great interest due to their very high achievement levels. Indeed, Lewis (1989b) termed it the "Japanese educational miracle". This relates back to

Johnson et al (1981) research which found a cooperative learning structure to lead to higher levels of academic achievement.

Cook & Stingle (1974) claim that the American culture suffers from a "cooperative deficiency" and stress the perils to society if this continues to develop. They suggest rewarding cooperative behaviour, and providing cooperative role models in the environment.

In New Zealand a study was carried out by Thomas (1975) using an experimental game technique. It was found that Cook Island and rural Maori children were much more cooperatively orientated than urban Maori children and white NZ children.

Fortunately in NZ there has been a growing awareness of the benefits of a cooperative learning structure, especially for the Maori and Polynesian students. This is due to the criticism by many that NZ schools were presenting a monocultural Pakeha classroom, illadapted to the particular needs of Maori and Polynesian students (McKessar & Thomas, 1978; Pere,1982; Pitt & MacPherson, 1974).

This cooperation in the classroom has been extended into cooperative game plans for the students. The NZ Education System hopes to increase children's motivation to cooperate in both the classroom and in the sporting arena, by setting a cooperative environment and encouraging cooperative behaviour.

2.7 Motivation

The fact that sport is such an enormously popular endeavour indicates the presence of a very strong motivational climate. Motivation is a very complex phenomenon and a hard and fast definition has eluded researchers in this area. However, at its broadest level, motivation is concerned with the factors that determine choice (direction), persistence and vigor of goal directed behaviour.

Two different forms of motivation have been distinguished- intrinsic and extrinsic motivation.

2.8 Intrinsic and Extrinsic Motivation

Intrinsic motivation refers to motives which are an integral part of the behaviour caused. The activity is engaged in for its own sake rather than for any apparent external reward. Thus, children who play sport for the sheer joy and personal satisfaction of being involved, are intrinsically motivated. According to Deci (1975) " intrinsically motivated behaviours are behaviours which a person engages in to feel competent and self-determining". Seeking out challenges and striving to meet those challenges are the primary intrinsically motivated behaviours.

Extrinsic motives, however, are outside or separate from the behaviour they cause. For example, a top athlete playing a sport for its monetary value.

Extrinsic and intrinsic forms of motivation may operate together but it is likely that one would be dominant over the other. It is also probable that sport can begin as extrinsically motivated and shift to intrinsically motivated. For

example, jogging for the extrinsic goal of keeping fit then realising the actual enjoyment of the experience, thus turning it into an internal goal.

Extrinsic rewards are obviously common in sport but they fail to account for all sport participation and activity. Most people when asked why they participate in sport will give intrinsic reasons such as for the excitement, challenge or sense of accomplishment. Nevertheless extrinsic rewards are also apparent, such as presenting trophies to the winning team or individual, giving T-shirts to the runners in a local race and awarding scholarships to the highly skilled college athletes. Thus, intrinsic motivation and extrinsic rewards are often combined. This would appear to be a good thing- the more motivation the better. However, researchers investigating this theory made the surprising discovery that extrinsic rewards can actually undermine or decrease intrinsic motivation.

Research by Lepper & Greene (1975) appropriately entitled 'Turning play into work' revealed the aversive effects of extrinsic rewards. The subjects in this study were young children who were intrinsically motivated to draw with felt pens. The children were split into three groups. The first group were promised a certificate as a reward for drawing with the pens. The second group were not told about the certificates but received one at the end of the session. The third group were not promised rewards and did not receive certificates. One week later the children were again observed to see the effects of the reward manipulation. The children who drew for the extrinsic reward of a certificate showed a decrease in intrinsic motivation, whereas the other two groups were uneffected.

Many other studies have confirmed this finding of extrinsic rewards undermining intrinsic motivation. If the research is correct and extrinsic rewards actually reduce intrinsic motivation then many sporting practices - and

also many practices in the education system - may be in desperate need of modification. This theory suggests an end to certificates for achievement or trophies for winning a sporting tournament. This in itself appears rather drastic and in need of further investigation.

2.9 Deci's Cognitive Evaluation Theory

Deci's (1975) cognitive evaluation theory provides a useful conceptual framework to examine the relationships between extrinsic rewards and intrinsic motivation. According to Deci, it is the person's interpretation of the reward rather than the reward itself which is the critical factor in motivation. Deci considers two aspects of rewards to effect intrinsic motivation - the controlling aspect and the informational aspect.

The controlling aspect is seen to conflict with the need for self-determination. If the controlling aspect of a reward is high then the individual will perceive the reward as controlling their behaviour. If an athlete runs a race in order to win a trophy the reward has a highly controlling aspect. However, if the controlling aspect is low the athlete will not see the reward as affecting his/her behaviour and self-determination will be high. According to cognitive evaluation theory, if the controlling aspect is high then the reward will undermine intrinsic motivation.

In the study by Lepper & Greene (1974) the reward had a highly controlling aspect, the subjects drew with the pens in order to obtain the certificate. The subjects before the experiment however had played with the pens because it was intrinsically motivating. By introducing a reward the experimenters shifted the childrens sense of control from personal control and intrinsic

motivation, onto the rewards. Thus, the expected rewards group had no motive to draw with the pens, in their later free-time, when no rewards were present. The children receiving unexpected rewards, however, did not perceive their rewards as controlling and therefore the unexpected rewards did not undermine intrinsic motivation.

Rewards can also effect intrinsic motivation through their informational aspect changing the individuals feelings of competence. A reward with high informational value can provide either positive or negative information. Positive information about skills, abilities and behaviours will enhance the individuals feelings of competence while negative information will detract from such feelings. For example, receiving a card for reaching a certain level on a physical fitness test provides positive information which could enhance feelings of competence. However, in most sporting situations only the first and second place-getters receive rewards and the remaining competitors miss out. This provides negative information and will therefore decrease their feelings of competence.

Most rewards have both controlling and informational aspects but they vary in salience. Whereas tangible rewards such as trophies and money tend to have a strong controlling aspect, verbal feedback appears less controlling. Rewards given for specific performance levels have greater informational value than those given randomly and ambiguously. If the controlling aspect of a reward is emphasized and made more salient then the intrinsic motivation will decrease. For example, a softball coach who has his dreams set on winning the tournament and stresses the ultimate importance of winning to his players, is likely to make the reward controlling and thus undermine intrinsic motivation. This in turn will lead to a high drop-out rate and a decreased chance of playing well.

If the information aspect of a reward is salient the reward may either enhance or detract from intrinsic motivation, depending on whether the reward gives positive or negative information about the players' competence. A coach who sets clear and specific goals for his or her players, gives them positive feedback on their progress and praises them when they reach the desired level, will no doubt increase the players' feelings of competence and enhance intrinsic motivation. This is due to the players seeing the feedback and praise as primarily informational. Negative feedback however may lead to feelings of incompetence and thus decrease intrinsic motivation.

Most rewards in sport can therefore be highly controlling or highly informational depending on how they are presented and how they are interpreted. Cognitive evaluation theory suggests that coaches should minimise the controlling aspects of rewards, use rewards for informational purposes and ensure that all participants have a reasonable chance to earn positive feedback.

2.10 Achievement Motivation

An important factor in most definitions of achievement motivation is the concern over one's ability to perform a task adequately according to some standard. For example, McClelland (1961) defined achievement motivation as "striving for success in competition with some standard of excellence". Obviously, a major focus in achievement settings is to demonstrate competence. The psychological prominence of perceived ability is also held to be a distinguishing feature of achievement motivation.

2.11 Task and Ego Orientation

Contemporary social cognitive approaches to achievement motivation assume that there are two major goal perspectives operating in achievement contexts. The first of these goal perspectives focuses on improving one's performance or mastering the skills of a task. Perceptions of demonstrated competence are thus self-referenced and subjective success is determined by improving or mastering the task at hand. For the second goal perspective, however, improvement and/or personal mastery is not sufficient to satisfy feelings of high ability. Instead perceptions of success entail a favourable comparison of one's own ability relative to that of others. That is, task difficulty and ability are judged high or low with reference to the ability of members of a normative reference group.

These two goal perspectives have been termed task involvement and ego involvement respectively by Nicholls (1984a, 1984b). Other theorists such as Elliott & Dweck (1988) and Ames and Archer (1988) have developed different labels and slightly different conceptualisation's of the two types of achievement goals. However, the similarities between these predominant goal-related theories of achievement motivation are marked.

Firstly, the theories agree that a person's goal perspective (or state of task or ego involvement) in a particular setting is held to be a function of situational factors and "individual differences in proneness to the different types of involvement..." (Nicholls, 1989, p 95). It appears that ones personal disposition towards a goal perspective "determine the a priori probability of adopting a particular goal and displaying a particular behavioural pattern, and situational

factors are seen as potentially altering these probabilities" (Dweck & Leggett, 1988, p 269).

For example, situations which emphasise interpersonal competition, social evaluation, normative feedback and/or the testing of valued skills, are more likely to evoke a state of ego involvement. On the other hand, environments characterised by learning new skills and improving one's own performance will tend to evoke task involvement (Ames & Archer, 1988; Nicholls,1989). Thus, situations may be viewed as more or less task-or-ego-involving, depending on the demands of the social environment.

With regards to individual differences in goal perspectives, people are assumed to vary in task orientation and ego orientation (Maehr & Braskamp, 1986; Nicholls, 1989). One of the leading researchers, Nicholls (1989) has suggested that these dispositional goal orientations are independent and are a result of childhood socialisation experiences. Therefore, past involvement in predominantly task-or-ego-oriented situations and social group membership (Maehr & Nicholls, 1980) may relate to one developing a personal disposition toward mastery or social comparison-based goals.

A final point of convergence amongst the theorists Nicholls (1989), Dweck (1986), Ames (1984b) and Maehr (1984) is the interrelationships between goal perspectives, motivational processes and behaviour. These theorists all agree that goals influence how we interpret and respond to achievement events. In particular, it is suggested that an individual's goal perspective will affect self-evaluations of demonstrated ability, expended effort and attributions for success and failure. These cognitions in turn are thought to affect achievement-related affect, strategies, and subsequent behaviours such as performance, task choice and persistence.

Different achievement-related patterns are expected depending on whether one is task-or-ego-involved. It is predicted that task-involved individuals, regardless of their level of perceived competence, will choose moderately challenging tasks, have intrinsic interest in the activity, exert maximum effort, sustain or improve performance, and have great persistence (especially following failure). Also, this goal state is thought to entail an attributional focus on effort.

Ego-involvement, however, will relate to these desirable behaviours only if the individual has high confidence in their level of ability. Unfortunately, perceptions of competence are believed to be very fragile in ego-involvement (Dweck, 1980). If individuals are ego-involved and have doubts about their ability they are likely to counteract this by taking on weaker opponents than themselves, in order to win. Conversely, they may set themselves unrealisticly high goals, which if they lost, would not harm their self-esteem. Eventually they may give up the activity altogether.

Ego-involvement coupled with perceptions of low ability is assumed to relate to the choosing of tasks that are too easy or too difficult, reduced effort, performance impairment, and lack of persistence (particularly following failure). These predictions are based on the assumption that the ego-involved individual is most concerned with the adequacy of his or her competence. Thus, their attributional focus is on ability.

2.12 Goal Orientations in Sport

Previous research in the sport domain has supported the assumption that there are two specific goal states in the achievement context of sport. These studies have also indicated that perceptions of demonstrated competence relate to the individual's perception of goal accomplishment or subjective success and failure (Kimiecik, Allison & Duda, 1986; Roberts & Duda, 1984). The past decade has brought considerable interest in individuals various orientations to sport achievement. The tendency to be task-or ego-involved in the context of competitive sport has been of particular interest.

Specifically, many researchers have attempted to discover the reason for the high drop-out rate in competitive youth sports. Dweck & Leggett (1988) suggest that looking at the achievement goals the children have set themselves may explain why some children give up easier than others. For example, the ego-involved child who judges their ability relative to how many people they can beat, is only likely to persist in sport, if they can continue to win. As there can only be a limited number of winners, the drop-out rate amongst ego-involved individuals is assumed to be high. However, the task-involved child who focuses on personal mastery and learning new skills, will still have plenty of reason to continue in sport, even if being beaten by others.

Research by Duda (1985a, 1985b, 1987) and Ewing (1981) of Junior high, Senior high and College students in the USA revealed gender differences in goal orientations in sport. Specifically, males were found to place a greater emphasis on ego-involvement goals in the athletic context than females.

2.13 Achievement Goals and Intrinsic Motivation

From the recent social cognitive theories of achievement motivation comes the proposition that goal perspectives should influence intrinsic motivation (Duda, 1991). It is assumed that task-involvement will foster intrinsic motivation, while ego-involvement will lead to a decrease in intrinsic motivation.

Nicholls (1989) theory supports this line of thought. He suggested that when an individual is ego-involved their achievement strivings are experienced as means to an end (ie. the demonstration of superior ability). However, when an individual is task-involved the activity is more likely to be seen as an end in itself. Consequently, the state of task-involvement has a greater likelihood of fostering intrinsic satisfaction in task-related efforts.

This proposition is substantiated in research by Duda & Nicholls (1989), on high school students attitudes to sport. They found a significant and positive correlation between task-involvement and intrinsic interest in sport. Task-involvement also negatively correlated with the reported experience of boredom in sport.

Similarly, Dweck (1986) argues that the state of ego-involvement emphasises goal attainment and demonstrating ability. This focus on performance goals is predicted to lead to decreased intrinsic motivation for the activity, and less enjoyment from working hard at the activity for its own sake. Both laboratory experiments and classroom-based studies have found evidence to support this theory (Butler, 1987,1988; Deci & Ryan, 1985; Plant & Ryan, 1985; Ryan, 1982).

In particular, Vallerand, Gauvin & Halliwell (1980) found that young boys spent significantly less time playing a sport in their free-time, if they had been

assigned to an ego-orientated rather than a mastery-orientated situation, prior to the free-choice period. Orgell & Duda (1990) also found a significant decline in free-time participation after an ego-involving condition, but only in their female subjects. Many other studies have reported that females, in particular, have less intrinsic interest when in an evaluative environment (Duda, 1991).

2.14 Achievement Goals, Motivation, Cooperation and Competition

A study was carried out by Duda (1989) investigating high school students goal perspectives and their perceived wider purpose of sport involvement. Amongst other results was the indication that students high in task-involvement tended to believe that sport should enhance our cooperative skills. Furthermore, individuals high in ego-involvement suggested that sport should build a competitive spirit and the desire to get ahead in the world. It therefore seems likely that a cooperative attitude in sport will positively correlate with task-orientation, while a win-at-all-costs attitude in sport will positively correlate with ego-orientation.

Cooperative structures have been found to encourage a focus on effort (Halloway, 1988); while competitive settings are more likely to elicit ability attributions (Ames, 1981). These attributions for success/failure also relate to those chosen by task-involved and ego-involved individuals respectively. Furthermore, like a task-involved individual the salient informational cue in a cooperative group is past performance history; while in a competitive social setting, as for an ego-involved individual, it is social comparison.

It is therefore likely that a cooperative structure in sport will foster both task-involvement and intrinsic motivation, while a competitive structure will encourage ego-involvement and a decreased intrinsic interest in sport.

2.15 Summary

A common theme throughout the literature on cooperation, competition, achievement goals and intrinsic motivation, is the importance of childhood socialization experiences. A well-designed sports programme designed to encourage cooperation, promote intrinsic motivation, and to foster the development of task-orientated goals, has been found to benefit the child, not only in sport, but in many other areas.

2.16 KiwiSport

The KiwiSport programme was developed by the Hillary Commission for Recreation and Sport, with the assistance of the Department of Education and several sporting organizations. This sports education programme was initiated into New Zealand schools as at 27/5/1988.

The basic objective of KiwiSport is to teach simple physical activity skills and fitness in a modified format to suit the developing child. The equipment and playing area is scaled to accord with childrens physical cababilities. The rules and time-length of the games are also reduced, to allow for the childs limited attention span. The aim is for the child to first develop the skills necessary to play the game, before being involved in the highly competitive adult sport.

KiwiSports stated aims are-

-Offer quality, quantity, variety and equity in sporting activities.
-Encourage participation and sequential skill development by everyone.
-Promote enjoyable and satisfying competition through discouraging the 'win-at-all-costs' attitude.
-Promote good sporting behaviours by all involved.

(Hillary Commission for Recreation and Sport, 1990)

It was decided that the KiwiSports programme offered a unique opportunity to investigate the effects of this sports education programme on the cooperative and competitive attitudes of the children, their intrinsic motivation, and also their different achievement perspectives. In particular, the investigation of the success of one of KiwiSports main aims- to decrease the win-at-all-costs attitude, and also to increase cooperation and sharing, was decided to be assessed.

An earlier study was carried out by the Social Research Services(1989) to investigate the effects of KiwiSport. Teachers were questioned on their agreement to various statements. A strong agreement that KiwiSport encouraged skill development was found, however, there was no clear evidence that KiwiSport decreased a win-at-all-costs attitude or promoted good sporting behaviour. The majority of teachers felt that KiwiSport had increased childrens enthusiasm and enjoyment for sport. They also felt that it had increased participation of both sexes, and that it was helping to break down the traditional male-female stereotypes in sport.

These results were from a large survey conducted at targeted schools. It was obviously an exploratory study, and as the programme had only been in progress for eighteen months, it would be difficult to determine what changes had occured in that time.

In the present study the programme had been in progress for four years and it was hoped that more long-term changes would appear in the children's attitudes towards sport. It was thus decided to compare the attitudes of children at schools with contrasting levels of KiwiSport activity.

2 17 Research Hypotheses

Children from a strong KiwiSport school-

1) will have a more cooperative attitude towards sport
2) will lack a win-at-all-costs attitude towards sport
3) will be more intrinsically motivated in sport
4) will demonstrate a task-involved achievement orientation in sport

Children from a weak KiwiSport school-

5) will have a less cooperative attitude towards sport
6) will display a win-at-all-costs attitude towards sport
7) will be less intrinsically motivated in sport
8) will demonstrate an ego-involved achievement orientation in sport

Males will be-

9) more competitive (win-at-all-costs)

10) less cooperative

11) more ego-involved

12) more competitive as they get older

Females will be-

13) more cooperative

14 less competitive (win-at-all-costs)

15) more task-involved

16) more cooperative as they get older

17) cooperation is predicted to positively correlate with intrinsic motivation and task-involvement

18) competition is predicted to positively correlate with nonintrinsic motivation and ego-involvement.

No hypotheses were made regarding the relationships between cooperation,noncooperation, competition, and noncompetition.

CHAPTER THREE

METHOD

It was decided that a close-ended questionnaire would be the most efficient method to measure the attitudes of the children. This would allow for a large number of subjects to be tested, and also enable easier coding of the data. This method would also eliminate the reward-failure component.

3.1 Questionnaire Design

The Sports Attitude Questionnaire was designed to assess cooperation, noncooperation, competition, noncompetition, intrinsic motivation, and nonintrinsic motivation. The constructs were defined as follows:

Competition- A preference to attain a goal in a social situation in which other individuals are excluded from achieving the goal, also indicated by a desire to outdo others or gain recognition; Noncompetition- A preference not to outdo others and a lack of a win-at-all-costs attitude ; Cooperation- A preference to attain a goal only if all other individuals can also attain the goal, thus an attitude favouring shared goals and; Noncooperation- preference of the individual not to work towards a common group goal. Adapted from Stockdale, Galejs & Wolins (1983) and Shwalb (1989).

The Intrinsic motivation construct was defined in terms of interest, enjoyment and satisfaction at being involved in the activity. Nonintrinsic motivation was defined as a lack of enthusiasm, and boredom for the activity.

For each of the constructs- cooperation noncooperation, competition, and noncompetition, 4 questions were developed, and each presented independently. For intrinsic motivation and noninitrinsic motivation, 3 questions for each construct were produced, and these also were presented independently. No previous questionnaires measuring these specific constructs in sport for children could be found, thus the instrument was developed for this study. However, certain questions from the sport psychology literature were also employed.

Competitive (win-at-all-cost) Questions (comp)

1) I think the best players in a team should always play in the positions where they can score the most points.
- This question placed an emphasis on scoring the most points at the cost of other weaker players getting a chance to play in those positions.

2) The most important part of the game for me is to score as many points as possible.
- This question indicates a preference for scoring the most points (winning) above all other factors.

3) After a running race the winner's name should be announced so that everybody knows who was best.
This question emhasises the importance of winning and a desire for public recognition for a 'win'. This question also indicates an extrinsic motivation.

4) I like to keep score during practice to see who gets the most goals/points etc.
- This question was taken from Stockdale, Galejs & Wolins (1983).

An emphasis again on scoring the most points, even during practice.

Noncompetitive Questions (nonc)

1) It does not matter if my team loses so long as we all tried hard.
- An emphasis on participating and trying rather than on winning.

2) I would rather play on a losing team than sit on the sidelines of a winning team.
- An emphasis again on playing the game rather than on winning at all costs.

3) I like to cheer all good play even if it is by the opposition.
- Enjoying and appreciating good play in a game whether it is by ones self/team or by the opposition. Also shows good sportsmanship, and lack of win-at-all-costs attitude.

4) I think all players should have turns playing in different positions even if they are not very good.
- The importance of all players getting a fair go, not just putting the best players in the prime positions.

Cooperation Questions (coop)

1) I usually go along with team decisions and try to help out.
- This question was taken from Stockdale, Galejs & Wolins (1983).
This shows a preference for cooperating and working together as a group.

2) I think it is important to pass the ball to all players rather than just to the better players.

- An emphasis on sharing the ball with all players so that everybody gets a turn.

3) I like to help my friends who are not as good in sports as me.
This demonstrates a cooperative attitude of trying to help their friends improve in sport, rather than trying to 'beat' them.

4) If I don't go to practice then someone who did go should be allowed to play instead of me.
- This indicates a very cooperative and sharing attitude. If someone takes the time to go to practice they should be allowed to play the game.

Noncooperation Questions (nonco)

1) If the coach doesn't let me play where I want to play, then I won't play at all.
-This shows a noncooperative attitude- if they can't play in their preferred positions then they won't play at all.

2) I prefer to practice by myself to make myself better than my friends.
- This indicates a preference to practice alone, rather than with friends, in order to better themselves over their peers.

3) If the practice time was changed without checking with me I probably would not go.
-This question was taken from Stockdale, Galejs & Wolins (1983).
This displays a noncooperative attitude, and a preference not to work towards a common group goal.

4) If I don't like the other people in my team I will try to get out of playing.

- This also shows a noncooperative attitude.

Intrinsic Motivation Questions (int)

1) I think sport is great fun and I like to play in my free time.

- An emphasis on enjoyment and in playing in own free time.

2) The best part of a game is being able to play and have fun with my friends.

- An emphasis on being able to participate and play with friends.

3) I feel satisfied after an exciting game of sport, whether I win or lose.

- Intrinsic satisfaction at having played the game, regardless of the outcome.

Nonintrinsic Motivation Questions (nonint)

1) In sport I often daydream instead of thinking about what I am doing.

- Displays a nonintrinsic attitude - a lack of interest in sport.

2) When playing sport I usually wish that the game would end quickly.

- A lack of enjoyment- not really wanting to be playing at all.

3) I am usually bored when playing sport.

- General boredom and lack of enthusiasm for sport.

These three nonint questions were taken from Duda (1989).

3.2 Sports Attitude Questionnaire 2

To assess the students task- and- ego orientation in sport the Task and Ego Orientation in Sport Questionnaire (Duda & Nicholls, 1989) was employed. This instrument was developed from the scales Nicholls (1989) and Nicholls et al (1985) created to assess task-and-ego-orientation in the classroom. The Sport Task Orientation and Sport Ego Orientation scales have been found to be internally consistent(alpha= .81-.86 and .79- .90, respectively). Both of these scales have an acceptable test-retest reliability following a three-week period (r= .68 and .75 respectively). Also, neither of these scales have been found to correlate with social desirability.

Items contained in the task and ego orientation questionnaire

I feel most successful in sport when...

Task Orientation

I learn a new skill and it makes me want to practice more.
I learn something that is fun to do.
I learn a new skill by trying hard.
I work really hard.
Something I learn makes me want to go and practice more.
A skill I learn feels really right.
I do my very best.

Ego Orientation

I'm the only one who can do the play or skill.

I can do better than my friends.

The others can't do as well as me.

Others mess up and I don't.

I score the most goals/points etc.

I'm the best.

3.3 General Design

The questionnaire was originally planned to be a 5-point Likert scale to measure the strength of response. However, after discussion with teachers it was felt that this rating scale could lead to the majority of children responding to the middle answers. A simpler method was recommended, so the scale was changed to a YES-MAYBE-NO format to keep the responses clear and precise.

Scoring item

Yes= 1 high

Maybe= 2

No= 3 low

Thus, for each question, a 1 would signify a high score, and a 3 would signify a low score.

The constructs competition, cooperation, noncompetition, noncooperation had 4 questions each therefore the range for these constructs is 4=high to 12=low.

The constructs intrinsic and nonintrinsic motivation had 3 questions each with a possible range of 3=high and 9=low. For task-involvement there were 7 questions, therefore the range is between 7=high and 21=low. Ego-involvement had 6 questions each with a possible range of 6=high and 18=low.

The Sports Attitude Questionnaire 1 only had a maximum of 4 items per construct. This was because 6 constructs were wished to be covered and it was felt that any more items for each construct would cause the questionnaire to become too long. This could then have led to the children becoming bored with the questionnaire, and losing concentration. It was thus kept as short as possible.

To further keep the children interested in the questionnaire, each page was illustrated with a cartoon-type picture.

The 22 items in the first part of the questionnaire were randomly listed to avoid the subjects picking up on any patterns. Similarly, the task-and ego-orientation questions were also randomly assorted. A cover-sheet was given on each questionnaire to get age and gender details from each subject. This also introduced the nature of the questionnaire and provided an example for the subjects to try before carrying on with the rest of the instrument.

3.4 Procedure

All subjects were told,

" I am doing a general study about students and sport and I am interested in finding out about your feelings when you play sport".

All subjects were then told,

" The questionnaire is anonymous so do not put your name on the sheet. Nobody will know how you have answered so please answer as honestly as you can. There are no right or wrong answers so just choose the answer that is best for you. I want to know how you feel about sport so please do not look at anybody else's sheet.

It was hoped that by making the questionnaire anonymous the social desirability factor would be eliminated. Also, by each subject doing it individually, any peer/teacher pressure would be removed. It was also hoped that an outside person presenting the questionnaire would discourage any biased answers. The importance of honesty was greatly stressed.

To assure understanding by pupils the instructions were read aloud and any procedural questions were answered.

3.5 Strong-Weak KiwiSport School Assessment

In order to compare the attitudes of children at schools with contrasting KiwiSport activity, schools had to be assessed as either weak or strong in KiwiSport involvement. Discussion with the KiwiSport Coordinator revealed that schools had distorted views on how involved they were in KiwiSport. For example, a form sent out by KiwiSport to all schools in Christchurch was returned. Some schools scored themselves as very high in participation and knowledge in KiwiSport, when the KiwiSport organisers knew this to be far from the case after visiting the school. Likewise, some schools rated themselves

conservatively in areas in which the KiwiSport organisers considered them to be very strong, especially in comparison with other schools.

It was thus decided that the most objective way of measuring the KiwiSport schools was for the KiwiSport Coordinator who visits all schools throughout the year to determine which were weak and which were strong. A list was drawn up of possible factors which would indicate strong/weak involvement in KiwiSport to help objectify the measurement. This was presented to the KiwiSport Coordinator who already had clear views as to which schools were weak in KiwiSport and which ones were strong. Two strong schools were selected using this list and the Coordinators own knowledge from school visits. The reasons for this assessment are listed;

The teachers have greater KiwiSport coaching skills
There is more organization and planning behind their sport
The young children are involved in KiwiSport from the start
There is a greater enthusiasm for KiwiSport from both pupils and teachers
The students appear more cooperative and more attentive to KiwiSport lessons
They have KiwiSport as part of their weekly school curriculum
Students display greater skill level in interzone KiwiSport events
They have more modified sports equipment and are committed to spending money on equipment each year

Two schools from a similar surburban area which were socially and economically comparable and considered to be significantly lacking in the above factors were then selected. Fortunately, the school considered to be the strongest KiwiSport school in the Canterbury region and the school considered to be one of the weakest, were in a similar area, and could be directly compared. Likewise, one of the rated strongest and one of the rated weakest

KiwiSport schools were also socio-economically comparable. For reasons of ethics, the strongest KiwiSport school will be coded as 1, and the weakest as 2; the other weak school will be coded as 3, and the other strong school as 4.

The two weak schools were considered to be lacking in the above listed points. Indeed, school 2 has had no contact at all with KiwiSport although they have registered with them. Neither school has KiwiSport as part of their weekly school curriculm. School 3 only has organised sport for their form 1 and form 2 students- not for their younger pupils. This school only participates in the inter-school KiwiSport events as they are part of the zone, otherwise they have no KiwiSport involvement. These events are held once or twice a year. In these inter-school events they are considered to be weaker in skills eg. catching and throwing a ball, as compared to other schools in the same zone with more KiwiSport involvement. These schools have no modified equipment. Also, neither of these schools returned the form that KiwiSport had sent out earlier, to assess each schools Kiwisport participation.

The KiwiSport Coordinator was very definite and precise about the distinction between the weak and the strong KiwiSport schools and considered the schools to be very similar in other areas.

3.6 Pilot Study

In the initial pilot study thirty-two subjects (average age = 9 years) were used to test the understanding of the questionnaire. Fifteen students from another school (average age= 10 years) also critically analysed the questionnaire for any possible problems. These two schools were viewed as average KiwiSport schools by the KiwiSport Coordinator. The questionnaire was also shown to

several teachers for further feedback. The students reported the questionnaire to be interesting and easy to understand. There were no obvious problems found for any of the 35 questions and it took them approximately 15 minutes to complete. The teachers also reponded to the instrument very positively and felt that students of the 10-12 year age group should be able to read and understand the questionnaire fully.

3.7 KiwiSport Study

The four schools which were selected for this study were contacted and the Principals' approval obtained. The questionnaires were then presented to the students. At school 1 and school 2 it was given to their highest grade which is their standard 4 students, (average age=10yrs). As school 3 and school 4 were full primary schools, it was given to both their standard 4 and their form 2 students (average age=12yrs), to look for a possible age difference. The data from these schools were then collected and analysed for significant differences between the weak and strong schools.

3.8 Sex Difference Study

A further investigation was carried out between an all boys catholic school and an all girls catholic school. These schools were sister schools and in the same suburb (these schools will be coded as -the all boys school=5, and the all girls school=6). These schools were socio-economically comparable. The questionnaire was presented to the students at both schools in exactly the same manner as described above. These data were then pooled and analysed for any possible sex differences.

CHAPTER FOUR

RESULTS

4.1 Design

Reliability

To determine the reliability of the questionnaire a test-retest reliability measure was conducted. A neutral KS school of standard 4 children completed the questionnaire once, then again 4 weeks later. A further check was made with another neutral KS school of standard 4 children, with a 3 week interval. It was felt that a 3 week break was probably more suitable for children of this age group. A correlation coefficient was computed between the pairs of responses for each item, and for each construct. The Pearsons product-moment correlation (r) was used to determine whether there was a relationship between the two sets of paired numbers.

Questionnaire Constructs

For each item in each construct an item total correlation coefficient was computed using the Apple Macintosh Statview correlation facility. It was hoped that the correlation coefficient would indicate a real relationship between the items in each construct.

To examine the relationship between the constructs a correlation coefficient matrix was also computed to look for any significant patterns among the constructs. This analysis was also used to test hypothesis 17; that cooperation, task orientation and intrinsic motivation would all be positively correlated, and hypothesis 18; that competition, ego orientation and nonintrinsic motivation would also be positively correlated.

Research Hypotheses

To test the research hypotheses an analysis of variance (ANOVA) was computed using a one-factor design, with the questionnaire item as the dependent variable. One-factor analysis of variance was computed for the independent variables school, age and sex.

A two-factor analysis of variance was then computed to look for any interaction between the variables- sex x school and sex x age.

School x age could not be computed due to the high number of missing cells. A three-factor analysis of variance was also unable to be carried out due to the high number of missing cells.

All analysis of variance were computed using the Apple Macintosh StatView package.

4.2 Reliability

Table 1.2: Correlation Coefficients for test-retest 1

Construct	Count	Covariance	Correlation	Significance
Competition	22	.916	.294	n.s
Cooperation	21	.124	.078	n.s
Noncompetition	22	2.853	.756	p< .01
Noncooperation	22	.645	.301	n.s
Intrinsic Motivation	22	.442	.704	p< .001
Nonintrinsic Motivation	22	.892	.563	p< .001
Task Orientation	22	3.219	.771	p< .001
Ego Orientation	22	6.825	.751	p< .001

All constructs, except competition, cooperation, and noncooperation had a significant correlation between the first and second administration of the questionnaire.

Table 1.2: Correlation Coefficients for test-retest 2

Construct	Count	Covariance	Correlation	Significance
Competition	30	1.634	.408	p< .05
Cooperation	30	1.598	.591	p< .001
Noncompetit-ion	30	1.869	.731	p< .001
Noncooperat-ion	30	1	.441	p< .02
Intrinsic Motivation	30	.772	.67	p< .001
Nonintrinsic Motivation	30	1.821	.769	p< .001
Task Orientation	30	5.576	.582	p< .001
Ego Orientation	30	4.878	.412	p< .05

All constructs had a significant correlation between the first and second administration of the questionnaire.

4.3 Questionnaire Constructs

Item total correlations- within constructs

Table 2.1: Competition

Item	Count	Covariance	Correlation	Significance
Comp 1	470	.447	.332	p< .001
Comp 2	470	.387	.277	p< .001
Comp 3	470	.404	.319	p< .001
Comp 4	470	.383	.275	p< .001

Table 2.2: Cooperation

Item	Count	Covariance	Correlation	Significance
Coop 1	469	.091	.169	p< .01
Coop 2	469	.091	.166	p< .01
Coop 3	469	.097	.185	p< .01
Coop 4	469	.078	.115	p< .02

Table 2.3: Noncompetition

Item	Count	Covariance	Correlation	Significance
Nonc 1	468	.104	.147	p< .01
Nonc 2	468	.095	.114	p< .02
Nonc 3	468	.182	.231	p< .001
Nonc 4	468	.224	.328	p< .001

Table 2.4: Noncooperation

Item	Count	Covariance	Correlation	Significance
Nonco 1	469	.183	.285	p< .001
Nonco 2	469	.18	.226	p< .001
Nonco 3	469	.223	.287	p< .001
Nonco 4	469	.181	.301	p< .001

Table 2.5: Intrinsic Motivation

Item	Count	Covariance	Correlation	Significance
Int 1	467	.064	.157	p< .01
Int 2	467	.086	.269	p< .001
Int 3	467	.096	.174	p< .01

Table 2.6: Nonintrinsic Motivation

Item	Count	Covariance	Correlation	Significance
Nonint 1	468	.262	.432	p< .001
Nonint 2	468	.286	.491	p< .001
Nonint 3	468	.273	.509	p< .001

Table 2.7: Task Orientation

Item	Count	Covariance	Correlation	Significance
Task 1	470	.428	.374	p< .001
Task 2	470	.342	.474	p< .001
Task 3	470	.29	.409	p< .001
Task 4	470	.509	.406	p< .001
Task 5	470	.413	.467	p< .001
Task 6	470	.351	.37	p< .001
Task 7	470	.301	.47	p< .001

Table 2.8: Ego Orientation

Item	Count	Covariance	Correlation	Significance
Ego 1	470	.924	.452	p< .001
Ego 2	470	.961	.548	p< .001
Ego 3	470	.777	.431	p< .001
Ego 4	470	.792	.456	p< .001
Ego 5	470	1.029	.535	p< .001
Ego 6	470	1.007	.589	p< .001

Each item in each construct were found to have a significant item total correlation coefficient.

4.4 Correlation Matrix for Constructs

Table 3: Correlation Matrix for Constructs

	Nonco	int	nonint	ego	task	comp	coop	nonc
nonco	1							
int	-.333	1						
nonint	.30	-.39	1					
ego	.311	-.156	.079	1				
task	-.305	.49	-.323	-.104	1			
comp	.229	-.022	-.034	.293	-.023	1		
coop	-.259	.323	-.166	-.068	.373	-.082	1	
nonc	-.266	.438	-.109	-.163	.38	-.141	.382	1

Comp-Nonc r= -.141 This negative correlation was not significant.

Coop-Nonco r= -.259 This negative correlation was significant at the .01 level.

Int-Nonint r= -.39 This negative correlation was significant at the .001 level.

Task-Ego r= -.104 This negative correlation was not significant.

Comp-Coop r=-.082 This negative correlation was not significant.

Comp-Ego r=.293 This positive correlation was significant at the .001 level.

Coop-Task r=.373 This positive correlation was significant at the .001 level.

Coop- Int r= .323 This positive correlation was significant at the .001 level.

Comp-Nonint r=-.034 This negative correlation was not significant.

Int-Task r=.49 This positive correlation was significant at the .001 level.

Task-nonint r= -.323 This negative correlation was significant at the .001 level.

Ego-nonint r= .079 This positive correlation was not significant.

4.5 KiwiSport- Research Hypotheses

For the 4 KiwiSport schools an analysis of variance was computed for each construct, and for each item, on the questionnaire.

Competition Hypotheses

2/ Children from a strong KS school will lack a win-at-all-costs attitude towards sport.

6/ Children from a weak KS school will display a win-at-all-costs attitude towards sport.

Competition Construct

Table 4.1: Frequency Distribution of Responses to Competition

Response Score		Yes=1	Maybe=2	Yes=3
School	1	27.70	43.24	29.73
	2	37.5	30.0	32.5
	3	21.0	43.9	35.1
	4	25.4	38.9	35.7

Competition- 4 items

1/ I think the best players in a team should always play in the positions where they can score the most points.

Table 4.2: Frequency Distribution of Responses to Comp 1

Response Score		Yes=1	Maybe=2	No=3
School	1	37.8	13.5	48.65
	2	42.5	30.0	27.5
	3	22.8	23.68	53.5
	4	26.19	27.78	46.03

2/ The most important part of the game for me is to score as many points as possible.

Table 4.3: Frequency Distribution of Responses to Comp 2

Response Score		Yes=1	Maybe=2	No=3
School	1	21.62	29.73	48.65
	2	40.0	27.5	32.5
	3	24.56	22.81	52.63
	4	30.95	18.25	50.80

3/ After a running race the winners name should be announced so that everybody knows who was best.

Table 4.4: Frequency Distribution of Responses to Comp 3

Response Score		Yes=1	Maybe=2	No=3
School	1	29.73	40.54	29.73
	2	37.5	47.5	15.0
	3	46.49	39.47	14.04
	4	30.16	45.24	24.60

4/ I like to keep score during practice to see who gets the most goals/points etc.

Table 4.5: Frequency Distribution of Responses to Comp 4

Response Score		Yes=1	Maybe=2	No=3
School	1	43.24	18.92	37.84
	2	45.0	35.0	20.0
	3	28.0	36.0	36.0
	4	35.70	26.20	38.10

Table 4.6: Mean Scores for Comp Construct and Individual Items

School	Comp	Comp 1	Comp 2	Comp 3	Comp 4
1	8.32	2.11	2.27	2.0	1.95
2	7.3	1.85	1.925	1.77	1.75
3	8.34	2.31	2.281	1.68	2.08
4	8.35	2.2	2.192	1.94	2.02

The analysis of variance computed for the competition construct found the weakest KS school, school 2 (mean= 7.3) to be significantly more competitive than school 1 (mean= 8.324; F=.95, p<.05), school 3 (mean= 8.342; F=.77, p<.05) and school 4 (mean= 8.35; F=.76, p<.05). These were all according to the Fisher PLSD test.

For item comp 1, school 2 (mean= 1.85) was significantly more competitive than school 3 (mean= 2.307) for both the Fisher PLSD test (F=.3, p<.05) and the Scheffe F-test (F=2.91, p<.05). School 2 was also significantly more competitive than school 4 (mean= 2.2; F=.3, p<.05) on the Fisher PLSD test.

For item comp 2, school 2 (mean= 1.925) was significantly more competitive than school 3 (mean= 2.281; F=.309, p<.05) according to the Fisher PLSD test. The item comp 3 found school 3 (mean= 1.675) to be significantly more competitive than school 1 (mean= 2; F=.27, p<.05) for the Fisher PLSD test. School 3 also scored significantly higher than school 4 (mean= 1.944) for both the Fisher PLSD test (F=.19, p<.05) and the Scheffe F-test (F=2.68, p<.05) on item comp 3.

The item comp 4 revealed school 2 (mean= 1.750) to be significantly more competitive than school 3 (mean= 2.079; F=.3, p<.05) for the Fisher PLSD test. Therefore, on all 4 of the competitive items, either school 2 or school 3 scored significantly higher than the other schools.

Cooperation Hypotheses

1/ Children from a strong KS school will have a more cooperative attitude towards sport.

5/ Children from a weak KS school will have a less cooperative attitude towards sport.

Cooperation Construct

Table 5.1: Frequency Distribution of Responses to Cooperation

Response Score		Yes=1	Maybe=2	No=3
School	1	64.87	29.73	5.40
	2	55.0	30.0	15.0
	3	79.83	18.42	1.75
	4	88.10	11.10	.80

Cooperation- 4 items

1/ I usually go along with team decisions and try to help out.

Table 5.2: Frequency Distribution of Responses to Coop 1

Response Score		Yes=1	Maybe=2	No=3
School	1	86.49	13.51	0
	2	77.5	15.0	7.5
	3	78.95	15.79	5.26
	4	78.57	18.25	3.18

2/ I think it is important to pass the ball to all players rather than just to the better players.

Table 5.3: Frequency Distribution of Responses to Coop 2

Response Score		Yes=1	Maybe=2	No=3
School	1	86.49	8.11	5.40
	2	85.0	12.5	2.5
	3	81.58	9.65	8.77
	4	85.71	8.73	5.56

3/ I like to help my friends who are not as good in sports as me.

Table 5.4: Frequency Distribution of Responses to Coop 3

Response Score		Yes=1	Maybe=2	No=3
School	1	81.08	18.92	0
	2	85.0	12.5	2.5
	3	78.95	17.54	3.51
	4	85.71	12.70	1.59

4/ If I don't go to practice then someone who did go should be allowed to play instead of me.

Table 5.5: Frequency Distribution of Responses to Coop 4

Response Score		Yes=1	Maybe=2	No=3
School	1	62.16	29.73	8.11
	2	52.5	27.5	20.0
	3	46.50	36.84	16.66
	4	51.59	32.54	15.87

Table 5.6: Mean Scores for Coop Construct and Coop Items

School	Coop	Coop 1	Coop 2	Coop 3	Coop 4
1	4.97	1.14	1.19	1.19	1.46
2	5.32	1.3	1.17	1.17	1.67
3	5.48	1.26	1.27	1.25	1.7
4	5.25	1.24	1.2	1.16	1.65

The analysis of variance computed for the cooperation construct revealed a significant difference between strong KS school 1 (mean= 4.973) and weak KS school 3 (mean= 5.482; $F=.48$, $p<.05$) according to the Fisher PLSD test. Strong KS school 4 also had a more cooperative score (mean= 5.246) than either school 2 (mean= 5.325) or school 3, although this was not significant.

The analysis of variance computed for each cooperative item on the questionnaire did not reveal any significant differences between the weak and strong KS schools. The mean range (4.973-5.482) indicates a generally high cooperative attitude from all schools.

Figure 1: Percentage Scores for Competition for Schools 1-4

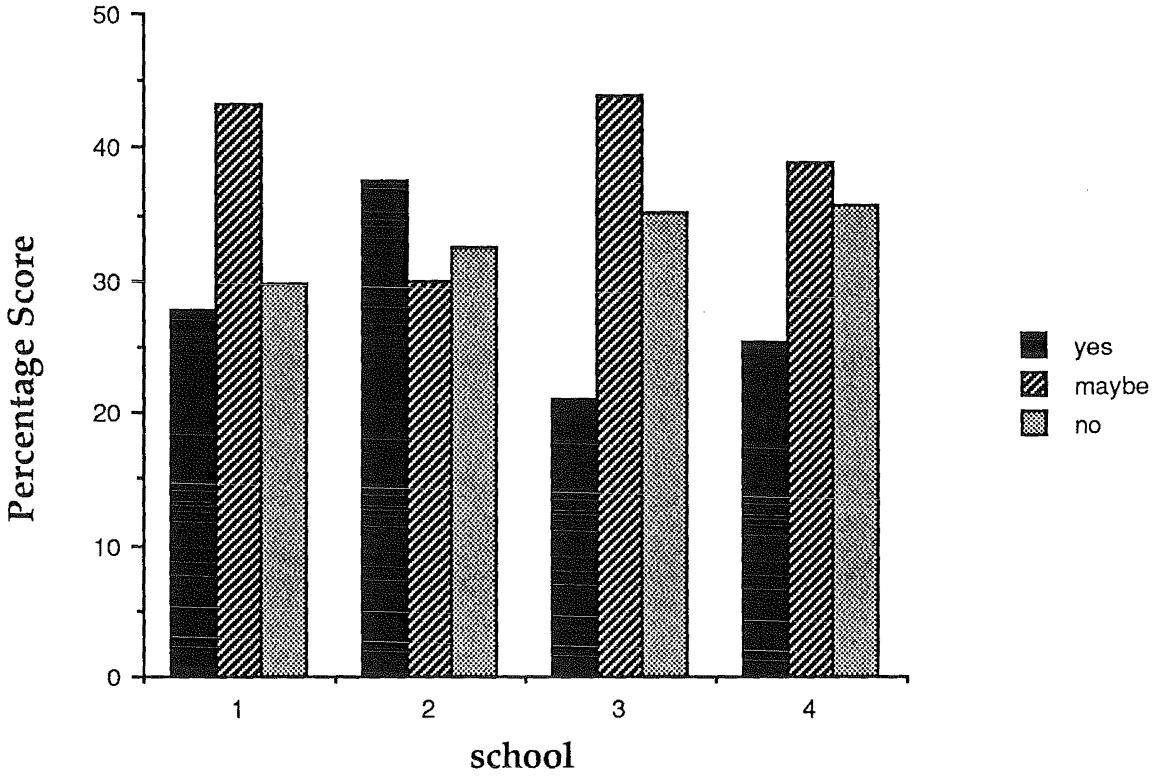
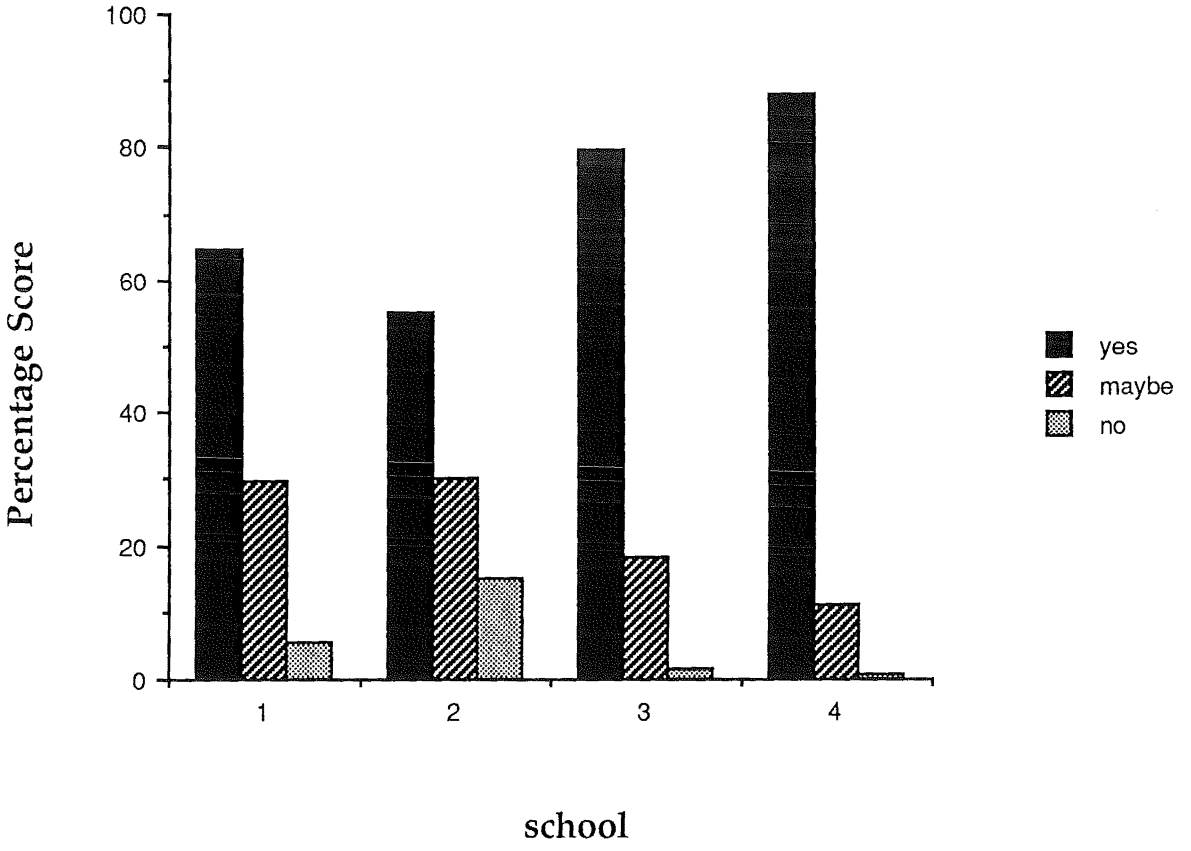


Figure 2: Percentage Scores for Cooperation for Schools 1-4



Noncompetition Construct

Table 6.1: Frequency Distribution of Responses to Noncompetition

Response Score		Yes=1	Maybe=2	No=3
School	1	81.09	13.51	5.40
	2	72.5	20.0	7.5
	3	76.32	18.42	5.26
	4	73.81	19.84	6.35

Noncompetition- 4 items

1/ It does not matter if my team loses so long as we all tried hard.

Table 6.2: Frequency Distribution of Responses to Nonc 1

Response Score		Yes=1	Maybe=2	No=3
School	1	78.38	8.11	13.51
	2	92.5	5.0	2.5
	3	82.46	12.28	5.26
	4	82.54	6.35	11.11

2/ I would rather play in a losing team than sit on the sidelines of a winning team.

Table 6.3: Frequency Distribution of Responses to Nonc 2

Response Score		Yes=1	Maybe=2	No=3
School	1	64.86	27.03	8.11
	2	42.5	52.5	5.0
	3	60.52	28.95	10.53
	4	50.0	36.51	13.49

3/ I like to cheer all good play even if it is by the opposition.

Table 6.4: Frequency Distribution of Responses to Nonc 3

Response Score		Yes=1	Maybe=2	No=3
School	1	70.27	21.62	8.11
	2	77.5	22.5	0
	3	51.76	35.96	12.28
	4	59.52	26.98	13.50

4/ I think all players should have turns playing in different positions even if they are not very good.

Table 6.5: Frequency Distribution of Responses to Nonc 4

Response Score		Yes=1	Maybe=2	No=3
School	1	78.38	13.51	8.11
	2	87.5	12.5	0
	3	73.68	19.30	7.02
	4	77.78	15.08	7.14

Table 6.6: Mean Scores for Nonc Construct and Nonc Items

School	Nonc	Nonc 1	Nonc 2	Nonc 3	Nonc 4
1	5.46	1.35	1.43	1.38	1.3
2	5.07	1.1	1.62	1.23	1.12
3	5.67	1.23	1.5	1.61	1.33
4	5.75	1.29	1.63	1.54	1.3

The analysis of variance computed for the construct noncompetition revealed a significant difference between school 2 (mean=5.07) and school 3 (mean=5.67; $F=.53$, $p<.05$). School 2 also scored significantly higher on noncompetition than school 4 (mean=5.75; $F=.52$, $p<.05$). These were both according to the Fisher PLSD test.

For the individual items, school 2 (mean=1.23) scored significantly higher on item nonc 3 than school 3 (mean=1.61) for both the Fisher PLSD test ($F=.24$, $p<.05$) and the Scheffe F-test ($F=3.14$, $p<.05$). School 2 also scored higher than school 4 (mean=1.54; $F=.24$, $p<.05$) for this item, according to the Fisher PLSD

test. For item nonc 4, school 2 (mean=1,12) had a significantly higher score than school 3 (mean=1.33; F=.21, p<.05) also for the Fisher PLSD test.

Noncooperation Construct

Table 7.1: Frequency Distribution of Responses to Noncooperation

Response Score		Yes=1	Maybe=2	No=3
School	1	21.62	18.92	59.46
	2	7.5	37.5	55.0
	3	4.39	9.65	85.96
	4	12.70	36.50	50.80

Noncooperation- 4 items

1/ If the coach doesn't let me play where I want to play then I won't play at all.

Table 7.2: Frequency Distribution of Responses to Nonco 1

Response Score		Yes=1	Maybe=2	No=3
School	1	8.11	18.92	72.97
	2	5.0	20.0	75.0
	3	1.75	10.53	87.72
	4	8.73	12.70	78.57

2/ I prefer to practice by myself to make myself better than my friends.

Table 7.3: Frequency Distribution of Responses to Nonco 2

Response Score		Yes=1	Maybe=2	No=3
School	1	2.70	21.62	75.68
	2	12.5	27.5	60.0
	3	11.40	25.44	63.16
	4	11.11	28.57	60.32

3/ If the practice time was changed without checking with me, I probably would not go.

Table 7.4: Frequency Distribution of Responses to Nonco 3

Response Score		Yes=1	Maybe=2	No=3
School	1	5.41	40.54	54.05
	2	15.0	27.5	57.5
	3	12.28	36.84	50.88
	4	13.49	37.30	49.21

4/ If I don't like the other people in my team, I'll try to get out of playing.

Table 7.5: Frequency Distribution of Responses to Nonco 4

Response Score		Yes=1	Maybe=2	No=3
School	1	2.70	13.51	83.79
	2	0	5.0	95.0
	3	4.39	7.89	87.72
	4	3.97	12.70	83.33

Table 7.6: Mean Scores for Nonco Construct and Nonco Items

School	Nonco	Nonco 1	Nonco 2	Nonco 3	Nonco 4
1	10.68	2.65	2.73	2.49	2.81
2	10.55	2.7	2.47	2.42	2.95
3	10.6	2.86	2.52	2.39	2.83
4	10.34	2.69	2.49	2.36	2.79

The analysis of variance calculated for the noncooperation construct did not reveal any significant differences between the weak and strong KS schools. The analysis of variance computed for each item, however, found school 3 (mean=2.86) to have a significantly lower score on item nonco 1 than school 1 (mean=2.65; $F=.2$, $p<.05$) and school 4 (mean=2.69; $F=.14$, $p<.05$). These were both according to the Fisher PLSD test. There were no significant differences for the other three items.

Figure 3: Percentage Scores for Noncompetition for Schools 1-4

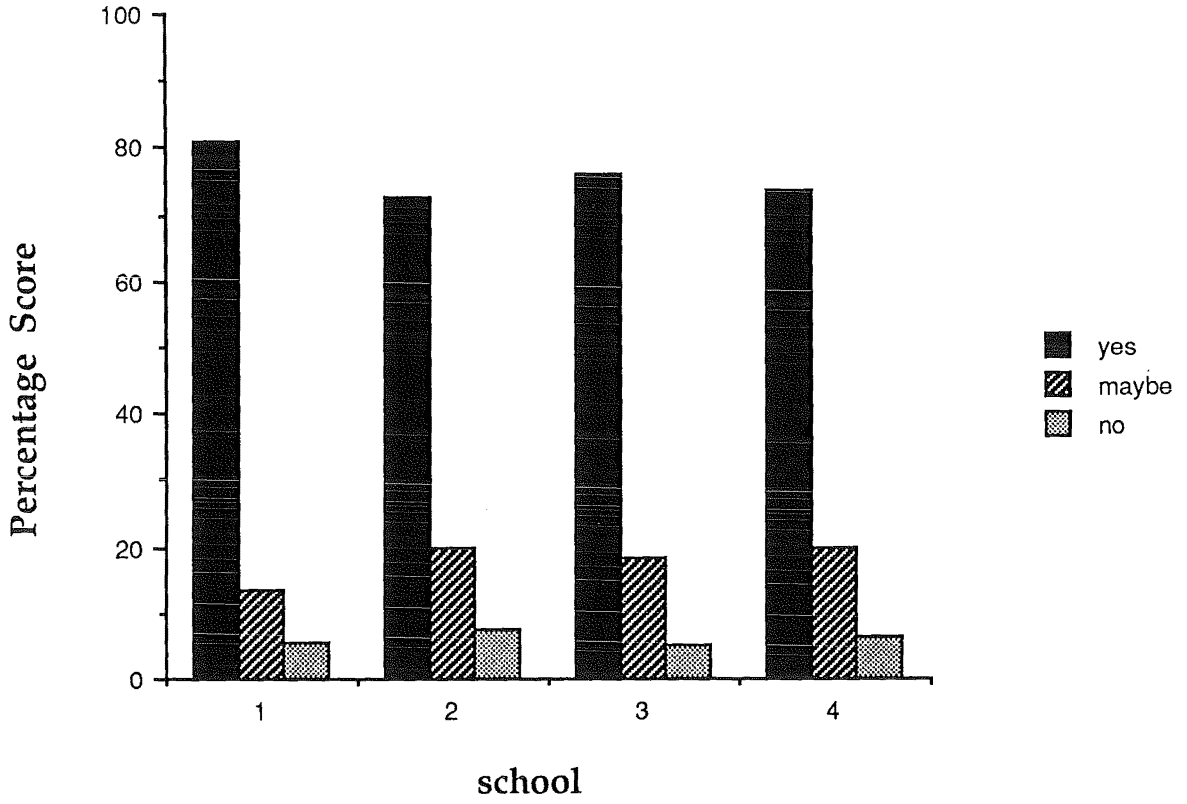
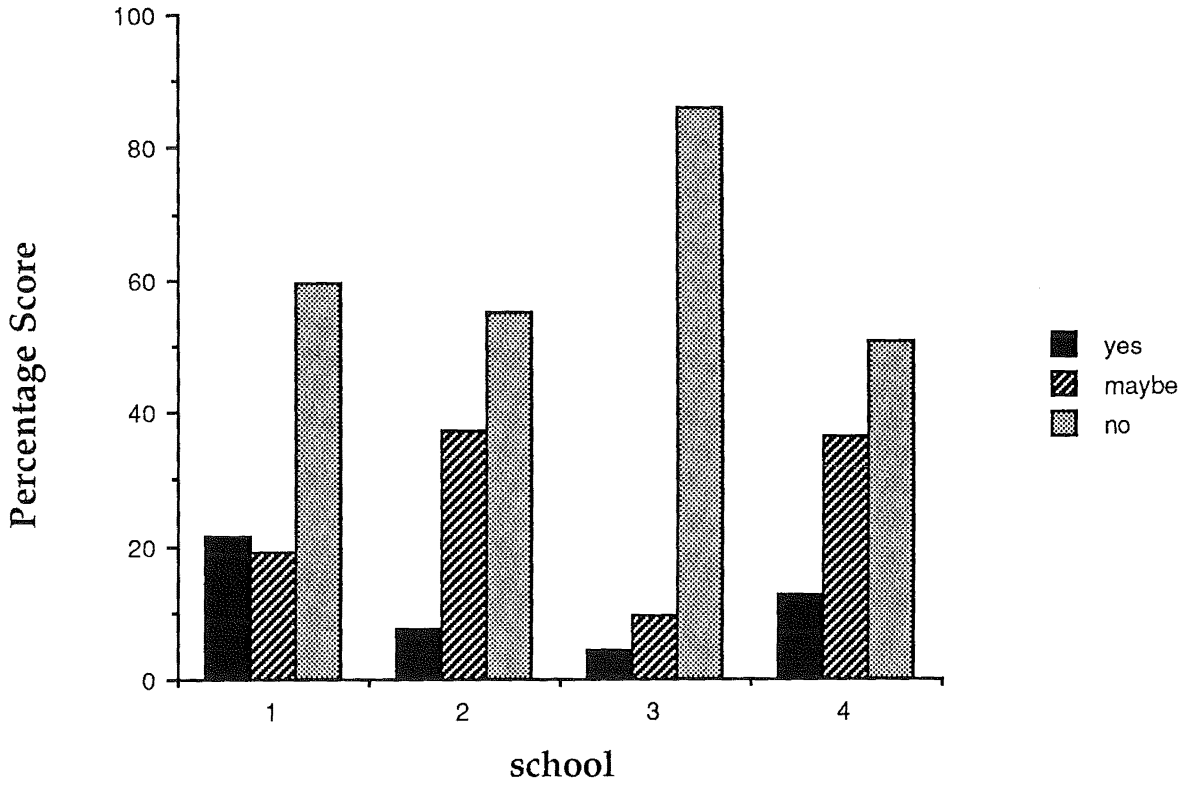


Figure 4: Percentage Score for Noncooperation for Schools 1-4



Intrinsic Motivation Hypotheses

3/ Children from a strong KS school will be more intrinsically motivated in sport.

7/ Children from a weak KS school will be less intrinsically motivated in sport.

Intrinsic Motivation Construct

Table 8.1: Frequency Distribution of Responses to Intrinsic Motivation

Response Score		Yes=1	Maybe=2	No=3
School	1	72.97	21.62	5.41
	2	87.5	10.0	2.5
	3	83.19	12.39	4.42
	4	82.54	11.11	6.35

Intrinsic Motivation- 3 items

1/ I think sport is great fun and I like to play in my free time.

Table 8.2: Frequency Distribution of Responses to Int 1

Response Score		Yes=1	Maybe=2	No=3
School	1	83.78	16.22	0
	2	85.0	12.5	2.5
	3	78.07	14.91	7.02
	4	73.02	18.25	8.73

2/ The best part of a game is being able to play and have fun with my friends.

Table 8.3: Frequency Distribution of Responses to Int 2

Response Score		Yes=1	Maybe=2	No=3
School	1	97.3	2.7	0
	2	97.5	0	2.5
	3	84.96	8.85	6.19
	4	93.65	4.76	1.59

3/ I feel satisfied after an exciting game of sport, whether I win or lose.

Table 8.4: Frequency Distribution of Responses to Int 3

Response Score		Yes=1	Maybe=2	No=3
School	1	86.49	13.51	0
	2	85.0	12.5	2.5
	3	84.21	12.28	3.51
	4	83.33	11.91	4.76

Table 8.5: Mean Scores for Int Construct and Int Items

School	Int	Int 1	Int 2	Int 3
1	3.32	1.16	1.03	1.14
2	3.4	1.17	1.05	1.17
3	3.69	1.29	1.21	1.19
4	3.65	1.35	1.08	1.22

The analysis of variance computed for the intrinsic motivation construct revealed a significant difference between school 1 (m=3.32) and school 3 (m=3.69; F=.36, $p<.05$) according to the Fisher PLSD test. All schools scored very high on this construct indicating a generally high intrinsic motivation for sport.

The analysis of variance computed for each intrinsic motivation item found school 3 to have a significantly lower score on item int 2 than school 1 (m=1.027; F=.15, $p<.05$), school 2 (m= 1.05; F=.15, $p<.05$) and school 4 (m= 1.08; F=.1, $p<.05$). These were all according to the Fisher PLSD test.

Nonintrinsic Motivation Construct

Table 9.1: Frequency Distribution of Responses to Nonintrinsic Motivation

Response Score		Yes=1	Maybe=2	No=3
School	1	5.41	24.32	70.27
	2	12.5	20.0	67.5
	3	1.75	20.18	78.07
	4	8.73	17.46	73.81

Nonintrinsic Motivation- 3 items

1/ In sport I often daydream instead of thinking about what I am doing.

Table 9.2: Frequency Distribution of Responses to Nonint 1

Response Score		Yes=1	Maybe=2	No=3
School	1	5.41	24.32	70.27
	2	15.0	12.5	72.5
	3	3.51	18.42	78.07
	4	7.14	25.40	67.46

2/ When playing sport I usually wish that the game would end quickly.

Table 9.3: Frequency Distribution of Responses to Nonint 2

Response Score		Yes=1	Maybe=2	No=3
School	1	8.11	29.73	62.16
	2	12.5	20.0	67.5
	3	5.26	26.32	68.42
	4	7.14	22.22	70.64

3/ I am usually bored when playing sport.

Table 9.4: Frequency Distribution of responses to nonint 3

Response Score		Yes=1	Maybe=2	No=3
School	1	2.70	18.92	78.38
	2	7.5	20.0	72.5
	3	3.51	9.65	86.84
	4	7.14	15.08	77.78

Table 9.5: Mean Scores for Nonint Construct and Nonint Items

School	Nonint	Nonint 1	Nonint 2	Nonint 3
1	7.95	2.65	2.54	2.76
2	7.78	2.58	2.55	2.65
3	8.21	2.75	2.63	2.83
4	7.97	2.61	2.65	2.71

The analysis of variance computed for the nonintrinsic motivation construct found no significant differences between the schools. The same analysis for each nonint item also yeilded no significant differences.

Figure 5: Percentage Scores for Intrinsic Motivation for Schools 1-4

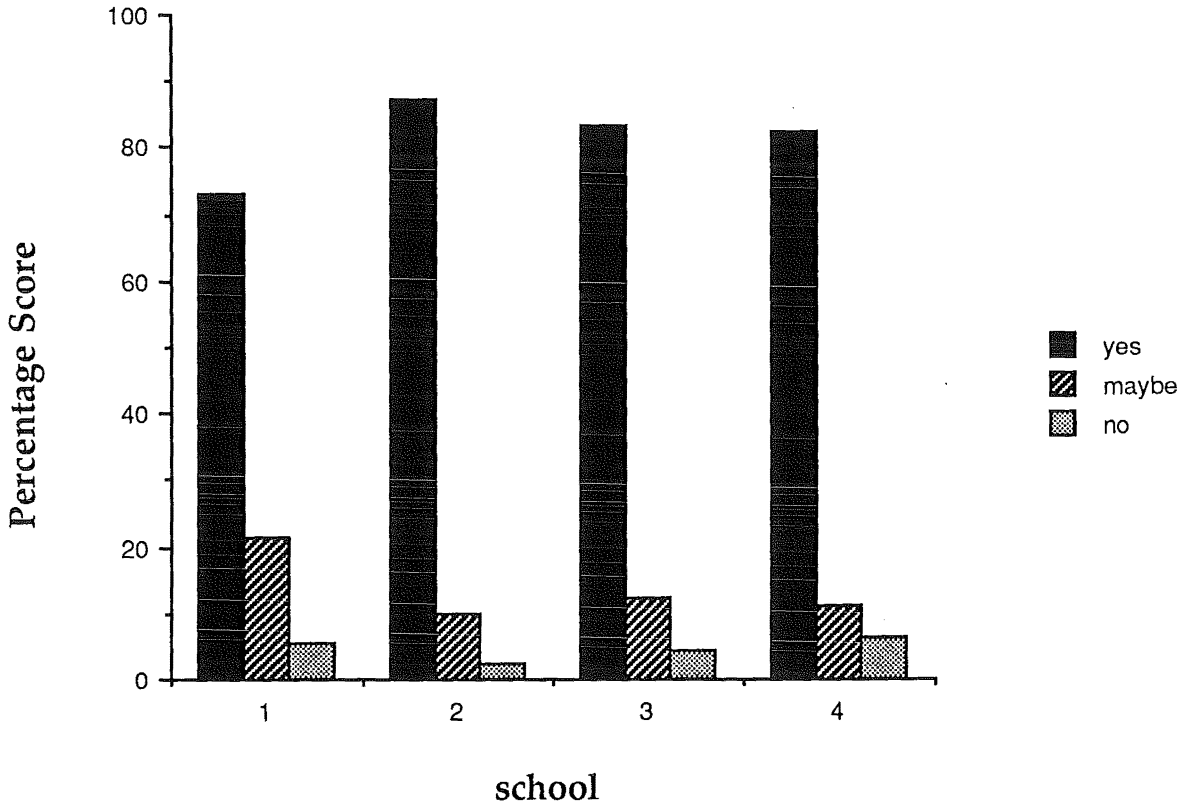
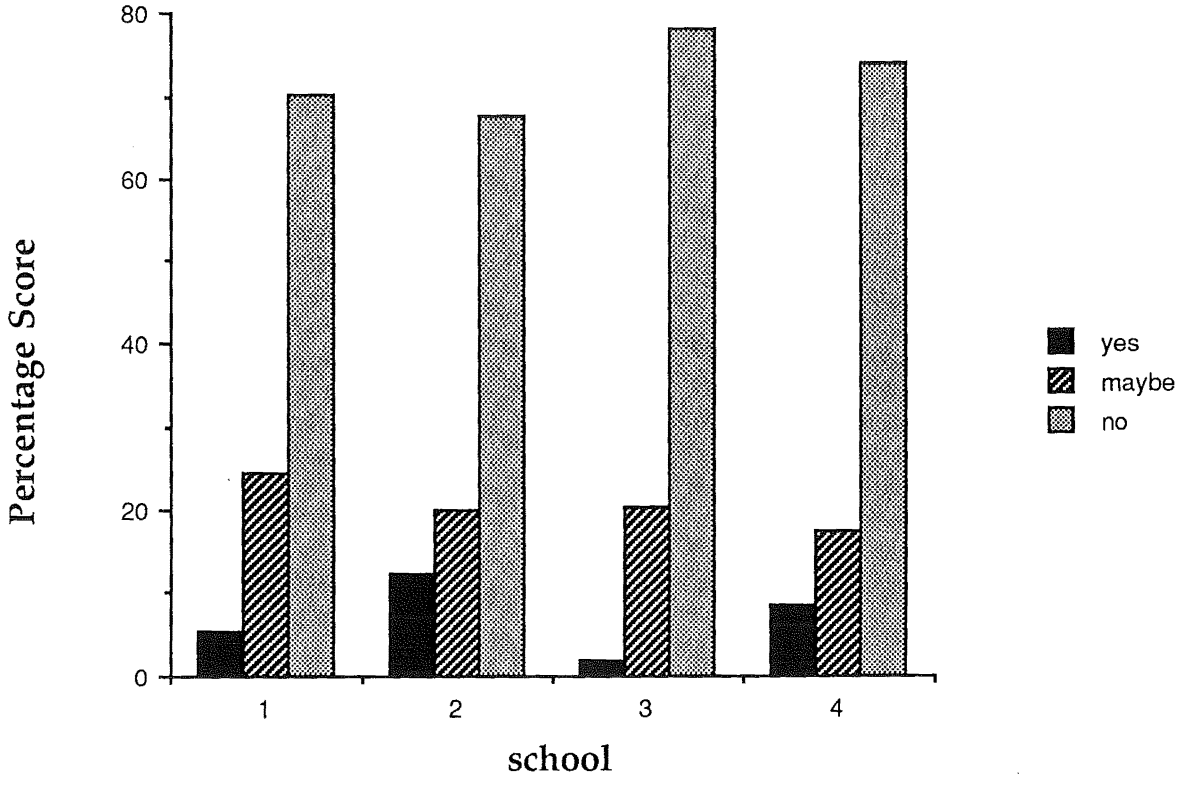


Figure 6: Percentage Scores for Nonintrinsic Motivation for Schools 1-4



Task Orientation Hypotheses

4/ Children from a strong KS school will demonstrate a task-involved achievement orientation in sport.

Task Orientation Construct

Table 10.1: Frequency Distribution of Responses to Task Orientation

Response Score		Yes=1	Maybe=2	No=3
School	1	72.97	13.51	13.52
	2	70.0	20.0	10.0
	3	87.72	9.65	2.63
	4	91.27	7.94	.79

Task Orientation- 7 items

I feel most successful in sport when....

1/ I learn a new skill and it makes me want to practice more.

Table 10.2: Frequency Distribution of Responses to Task 1

Response Score		Yes=1	Maybe=2	No=3
School	1	86.49	10.81	2.70
	2	87.50	12.50	0
	3	78.95	16.67	4.38
	4	80.16	16.67	3.17

2/ I learn something that is fun to do.

Table 10.3: Frequency Distribution of Responses to Task 2

Response Score		Yes=1	Maybe=2	No=3
School	1	83.78	16.22	0
	2	97.5	2.5	0
	3	90.35	7.02	2.63
	4	92.06	4.76	3.18

3/ I learn a new skill by trying hard.

Table 10.4: Frequency Distribution of Responses to Task 3

Response Score		Yes=1	Maybe=2	No=3
School	1	89.19	10.81	0
	2	90.0	7.5	2.5
	3	88.60	11.40	0
	4	86.51	10.32	3.17

4/ Something I learn makes me want to go and practice more.

Table 10.5: Frequency Distribution of Responses to Task 4

Response Score		Yes=1	Maybe=2	No=3
School	1	81.08	5.41	13.51
	2	90.0	7.5	2.5
	3	75.44	18.42	6.14
	4	75.40	19.05	5.55

5/ I work really hard

Table 10.6: Frequency Distribution of Responses to Task 5

Response Score		Yes=1	Maybe=2	No=3
School	1	81.08	18.92	0
	2	80.0	17.5	2.5
	3	80.70	16.67	2.63
	4	79.37	15.87	4.76

6/ A skill I learn feels really right.

Table 10.7: Frequency Distribution of Responses to Task 6

Response Score		Yes=1	Maybe=2	No=3
School	1	64.86	27.03	8.11
	2	75.0	22.5	2.5
	3	71.93	26.32	1.75
	4	72.22	25.40	2.38

7/ I do my very best.

Table 10.8: Frequency Distribution of Responses to Task 7

Response Score		Yes=1	Maybe=2	No=3
School	1	86.49	13.51	0
	2	90.0	7 .5	2.5
	3	92.10	7.02	.88
	4	88.89	8.73	2.38

Table 10.9: Mean Scores for Task Construct and Task Items

School	Task	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7
1	8.51	1.16	1.16	1.11	1.32	1.19	1.43	1.14
2	8.02	1.12	1.02	1.12	1.12	1.23	1.27	1.12
3	8.4	1.25	1.12	1.11	1.31	1.22	1.3	1.69
4	8.47	1.23	1.11	1.16	1.3	1.25	1.29	1.13

The analysis of variance computed for both the task-orientation construct and task-orientation items revealed no significant differences between the weak and strong KS schools. All schools scored high on this construct, (range= 8.025 - 8.514) which suggests that generally children have a high task orientation towards sport.

Ego Orientation Hypotheses

8/ Children from a weak KS school will demonstrate an ego-involved achievement orientation in sport.

Ego Orientation Construct

Table 11.1: Frequency Distribution of Responses to Ego

Response Score		Yes=1	Maybe=2	No=3
School	1	8.11	40.54	51.35
	2	10.0	40.0	50.0
	3	11.41	33.33	55.26
	4	13.49	37.30	49.21

Ego Orientation- 6 items

I feel most successful in sport when....

1/ I'm the only one who can do the play or skill.

Table 11.2: Frequency Distribution of Responses to Ego 1

Response Score		Yes=1	Maybe=2	No=3
School	1	21.62	32.43	45.95
	2	17.5	25.0	57.5
	3	22.81	30.70	46.49
	4	24.60	34.13	41.27

2/ I can do better than my friends.

Table 11.3: Frequency Distribution of Responses to Ego 2

Response Score		Yes=1	Maybe=2	No=3
School	1	10.81	51.35	37.84
	2	7.5	50.0	42.5
	3	11.40	34.21	54.39
	4	15.08	40.48	44.44

3/ The others can't do as well as me.

Table 11.4: Frequency Distribution of Responses to Ego 3

Response Score		Yes=1	Maybe=2	No=3
School	1	5.40	48.65	45.95
	2	20.0	30.0	50.0
	3	12.28	31.58	56.14
	4	11.11	30.16	58.73

4/ Others mess up and I don't.

Table 11.5: Frequency Distribution of Responses to Ego 4

Response Score		Yes=1	Maybe=2	No=3
School	1	8.11	32.43	59.46
	2	7.5	47.5	45.0
	3	8.77	28.07	63.16
	4	13.50	26.20	60.30

5/ I score the most points/goals etc.

Table 11.6: Frequency Distribution of Responses to Ego 5

Response Score		Yes=1	Maybe=2	No=3
School	1	18.92	45.95	35.13
	2	15.0	52.5	32.5
	3	27.20	28.07	44.73
	4	26.20	32.54	41.26

6/ I'm the best.

Table 11.7: Frequency Distribution of Responses to Ego 6

Response Score		Yes=1	Maybe=2	No=3
School	1	2.70	40.54	56.76
	2	10.0	32.5	57.5
	3	11.40	28.07	60.53
	4	11.90	28.57	59.53

Table 11.8: Mean Scores for Ego Construct and Ego Items

School	Ego	Ego 1	Ego 2	Ego 3	Ego 4	Ego 5	Ego 6
1	14.14	2.24	2.27	2.41	2.51	2.16	2.54
2	14.07	2.4	2.35	2.3	2.38	2.17	2.47
3	14.32	2.24	2.43	2.44	2.54	2.18	2.49
4	14.08	2.18	2.3	2.49	2.48	2.15	2.49

The Analysis of variance computed for the ego orientation construct and for each ego orientation item, revealed no significant differences between the weak and strong KS schools. All schools scored low on this construct (range= 14.032-14.316) which indicates a lack of ego-orientation in all of these schools.

Figure 7: Percentage Scores for Task Orientation for Schools 1-4

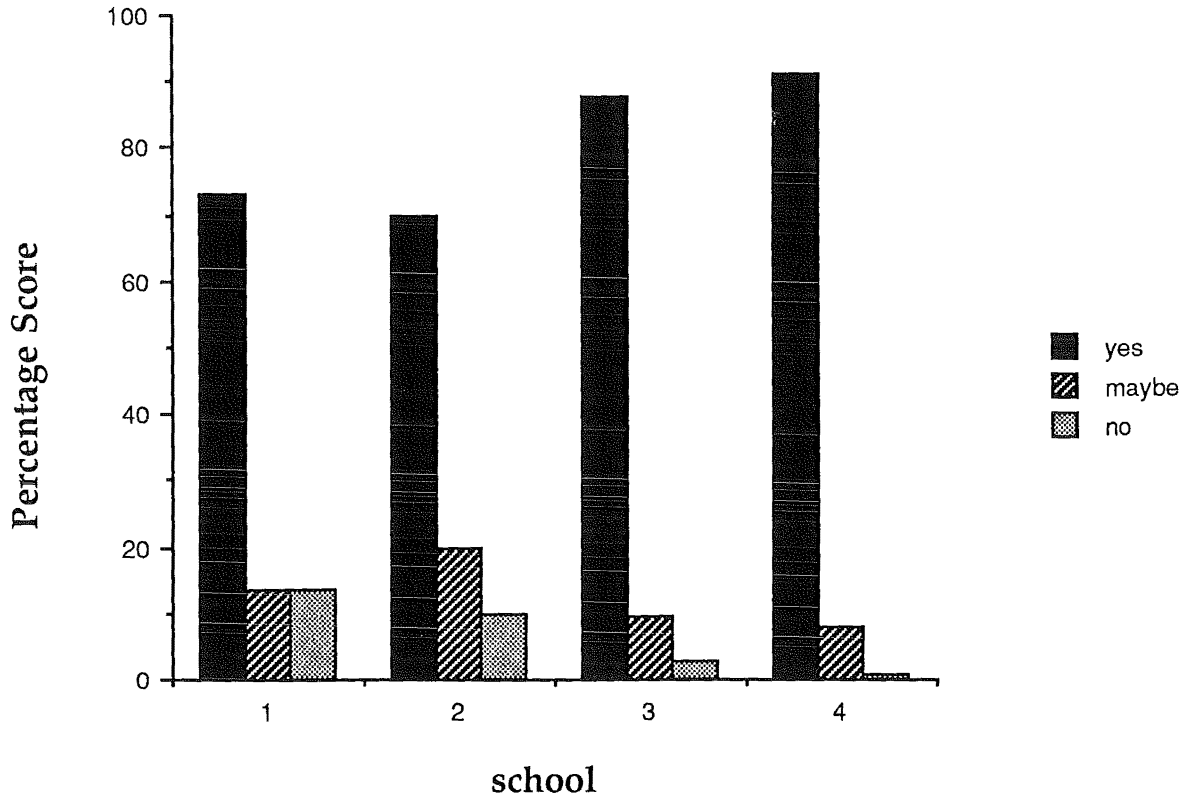
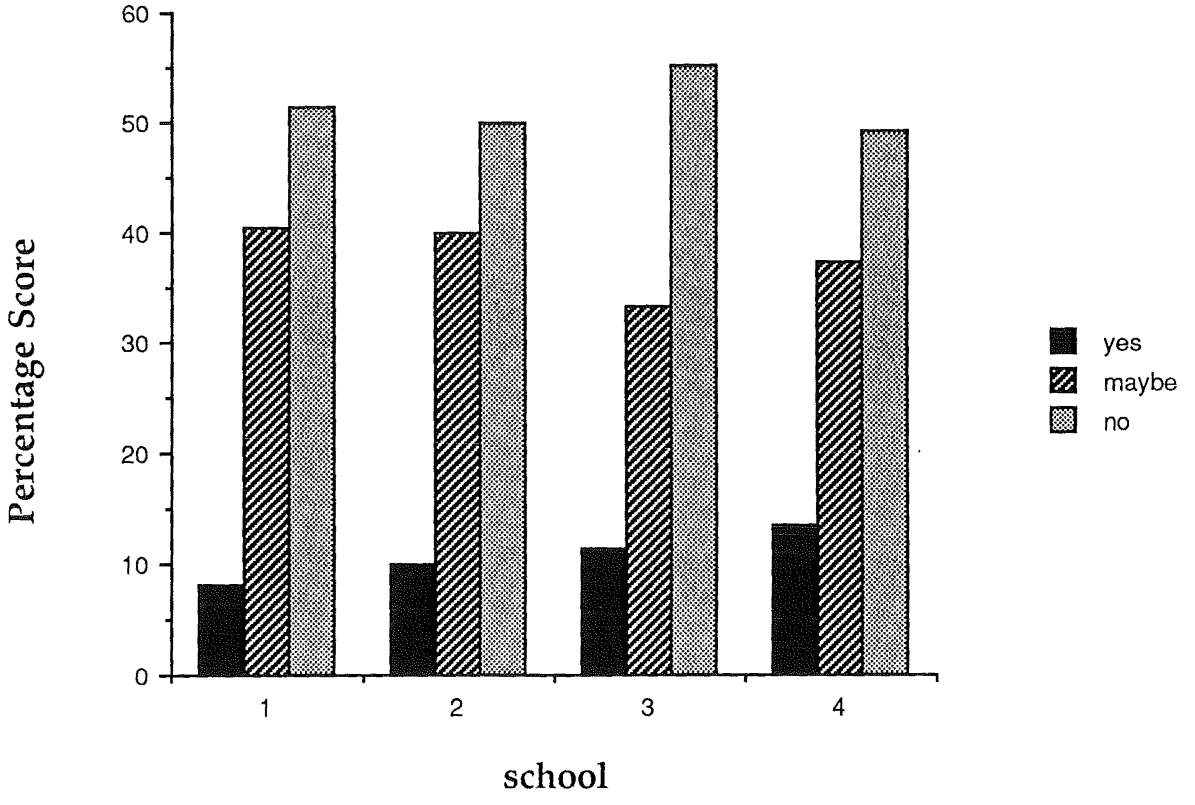


Figure 8: Percentage Scores for Ego Orientation for Schools 1-4



4.6 Strong vs Weak KiwiSport Schools

To assess whether there was a significant difference between the 2 weak and 2 strong KiwiSport schools, school 1 and school 4 data was pooled and analysed against the combined data of school 2 and school 3. An analysis of variance was computed for each construct, finding no significant differences.

An analysis of variance for each item was then carried out, finding significant differences on item Nonco 1 (strong KS schools mean=2.69; weak KS schools mean= 2.82) for the Fisher PLSD test ($F=.12$, $p<.05$) and the Scheffe F-test ($F=4.67$, $p<.05$). For item comp 3, weak KS schools (mean=1.17) scored significantly higher than strong KS schools (mean=1.96) on both the Fisher PLSD test ($F=.16$, $p<.05$) and the Scheffe F-test ($F=9.69$, $p<.05$). On item int 2, strong KS schools (mean=1.07) scored significantly higher than weak KS schools (mean=1.17) according to both the Fisher PLSD test ($F=.09$, $p<.05$) and the Scheffe F-test ($F=4.95$, $p<.05$).

Therefore, strong KS schools scored significantly higher on items nonco 1 and int 2, while weak KS schools scored significantly higher on comp 3.

4.7 Sex Difference Study 1

An Analysis of variance was computed between school 5 and school 6 for each construct, and each item, of the questionnaire, to determine any significant differences between the genders.

Competition Hypotheses

9/ Males will be more competitive in sport.

13/ Females will be less competitive in sport.

Competition

There were no significant differences found between the genders for the competition construct (females m score=8.62; males m score=9). An analysis of variance was then computed for each competitive item. On item comp 1, males (mean=2.141) were found to be significantly more competitive than females (mean= 2.473) according to both the Fisher PLSD test ($F=.25$, $p<.05$) and the Scheffe F-test ($F=6.88$, $p<.05$). There were no significant differences for the other three items.

Cooperation Hypotheses

10/ Males will be less cooperative in sport.

12/ Females will be more cooperative in sport.

Cooperation

An analysis of variance computed for the cooperation construct revealed no significant differences between the genders (females m score=5.07; males m score=4.85). There were also no significant differences found for the four cooperative items.

Noncompetition

The analysis of variance computed for the noncompetitive construct failed to reveal a significant difference between the genders (females m score=5.27; males m score=5.53). However, on item nonc 1, females (m score=1.07) scored significantly higher than males (m score=1.25) according to both the Fisher PLSD test ($F=.15$, $p<.05$) and the Scheffe F-test ($F=5.29$, $p<.05$).

Noncooperation

An analysis of variance calculated for the noncooperative construct found males (m score=10.32) to be significantly more noncooperative than females (m score=11.02) on both the Fisher PLSD test ($F=.49$, $p<.05$) and the Scheffe F-test ($F=7.65$, $p<.05$). On the individual items, males (mean=2.44) scored significantly higher on nonco 2 than females (mean=2.73) on both the Fisher PLSD test ($F=.23$, $p<.05$) and the Scheffe F-test ($F=6.02$, $p<.05$). Likewise, the item nonco 3 found males (mean=2.3) to score significantly higher than females (mean=2.53) according to the Fisher PLSD test ($F=.22$, $p<.05$) and the Scheffe F-test ($F=4.18$, $p<.05$).

Intrinsic Motivation

There were no significant differences found between the genders for either the intrinsic motivation construct (females m score=3.6; males m score=3.6) or for the three intrinsic motivation items.

Nonintrinsic Motivation

An analysis of variance revealed no significant differences between the genders for either the nonintrinsic motivation construct (females m score=7.83; males m score=8) or for the three nonintrinsic motivation items.

Task Orientation Hypotheses

14/ Females will be more task-involved in sport.

Task Orientation

An analysis of variance was computed for the task-involvement construct. This revealed that females (mean= 8) were significantly more task-orientated than males (mean=8.768) according to both the Fisher PLSD test ($F=.7$, $p<.05$) and the Scheffe F-test ($F=4.67$, $p<.05$).

An analysis of variance for each task item revealed that females were significantly more task orientated on item task 4 (females m=1.2, males m=1.44) for both the Fisher PLSD test ($F=.19$, $p<.05$) and the Scheffe F-test ($F=5.05$, $p<.05$). Females also scored significantly higher on item task 5 than males (females m=1.27, males m=1.33) for both the Fisher PLSD test ($F=.16$, $p<.05$) and the Scheffe F-test ($F=5.24$, $p<.05$).

Ego Orientation Hypotheses

11/ Males will be more ego-orientated in sport.

Ego Orientation

The analysis of variance computed for the ego-orientation construct revealed no significant differences between the genders (females m=13.21; males m=13.58). There were also no significant differences found for each ego-orientation item.

4.8 Sex Difference Study 2

The data from all six schools were then pooled and analysed for an overall sex difference. An analysis of variance for each construct was again computed.

Table 12: Mean Scores for Sex Difference Study 2

CONSTRUCT	MEAN	
	Females	Males
Competition	8.468	8.329
Cooperation	5.161	5.249
Noncompetition	5.369*	5.708
Noncooperation	10.683	10.382*
Intrinsic Motivation	3.65	3.55
Nonintrinsic Motivation	7.87	8.07
Task-orientation	8.28	8.55
Ego-orientation	14.197	13.623*

A one-factor analysis of variance computed for all six schools found males (m=10.382) to score significantly higher on the construct noncooperation than females (m=19.683), on both the Fisher PLSD test (F=.268, $p<.05$) and the Scheffe F-test (F=4.857, $p<.05$). Males (m=13.623) also scored significantly

higher on ego-orientation than females (m=14.197), on both the Fisher PLSD test (F=.534, p<.05) and the Scheffe F-test (F=4.47, p<.05). On the other hand, females (m=5.367) had a significantly higher score on the noncompetitive construct than males (m=5.708) according to both the Fisher PLSD test (F=.267, p<.05) and the Scheffe F-test (F=6.369, p<.05).

4.9 Age Difference Study

An analysis of variance for each construct was computed using the data from all six schools.

Table 13.1: Mean Scores for Competition

AGE (years)	COUNT	MEAN
9	16	7.5
10	142	7.77
11	101	8.62
12	160	8.67
13	49	9.08
14	2	9.5

These data reveal a trend for a less competitive attitude, the older the child. The analysis of variance computed on these data found the 9 year olds (m=7.5) to be significantly more competitive than the 11 year olds (m=8.62; F=1.065, p<.05), and the 12 year olds (m=8.67; F=1.038, p<.05). These were both according to the Fisher PLSD test.

The 10 year olds (m=7.77) were found to be significantly more competitive than the 11 year olds (m=8.62; F=.515, p<.05)) on the Fisher PLSD test. The 10 year olds were also more competitive than the12 year olds (m=8.67) according to both the Fisher PLSD test (F=.456, p<.05) and the Scheffe F-test (F=3.011, p<.05). Likewise, the 10 year olds scored significantly higher than the 13 year olds (m=9.08) for both the Fisher PLSD test (F=.656, p<.05) and the Scheffe F-test (F=3.101, p<.05).

Table 13.2: Mean Score for Cooperation

AGE (years)	COUNT	MEAN
9	16	5.94
10	142	5.19
11	101	5.31
12	160	5.17
13	48	4.96
14	2	4.5

These data seem to indicate a more cooperative attitude, the older the child. The analysis of variance did not yeild any significant results.

Figure 9: Mean Scores for Competition for Ages 9-14 years

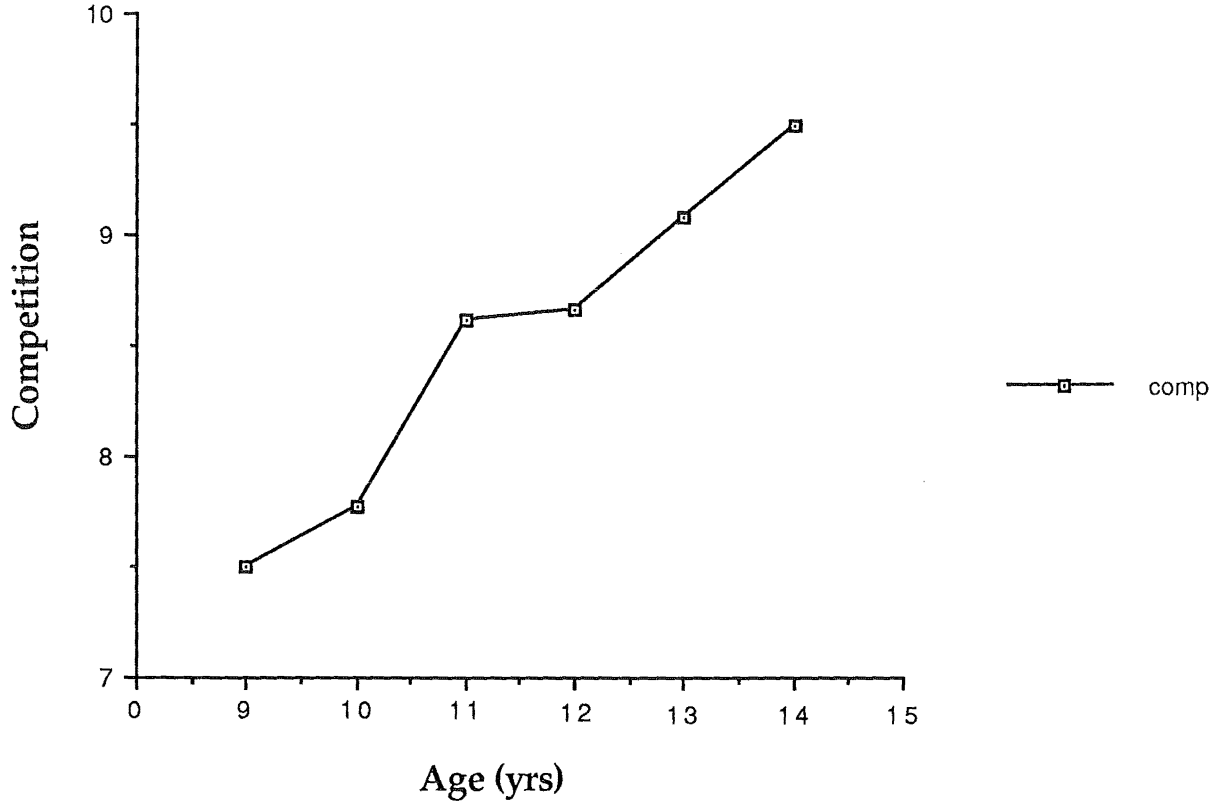


Figure 10: Mean Scores for Cooperation for Ages 9-14 years

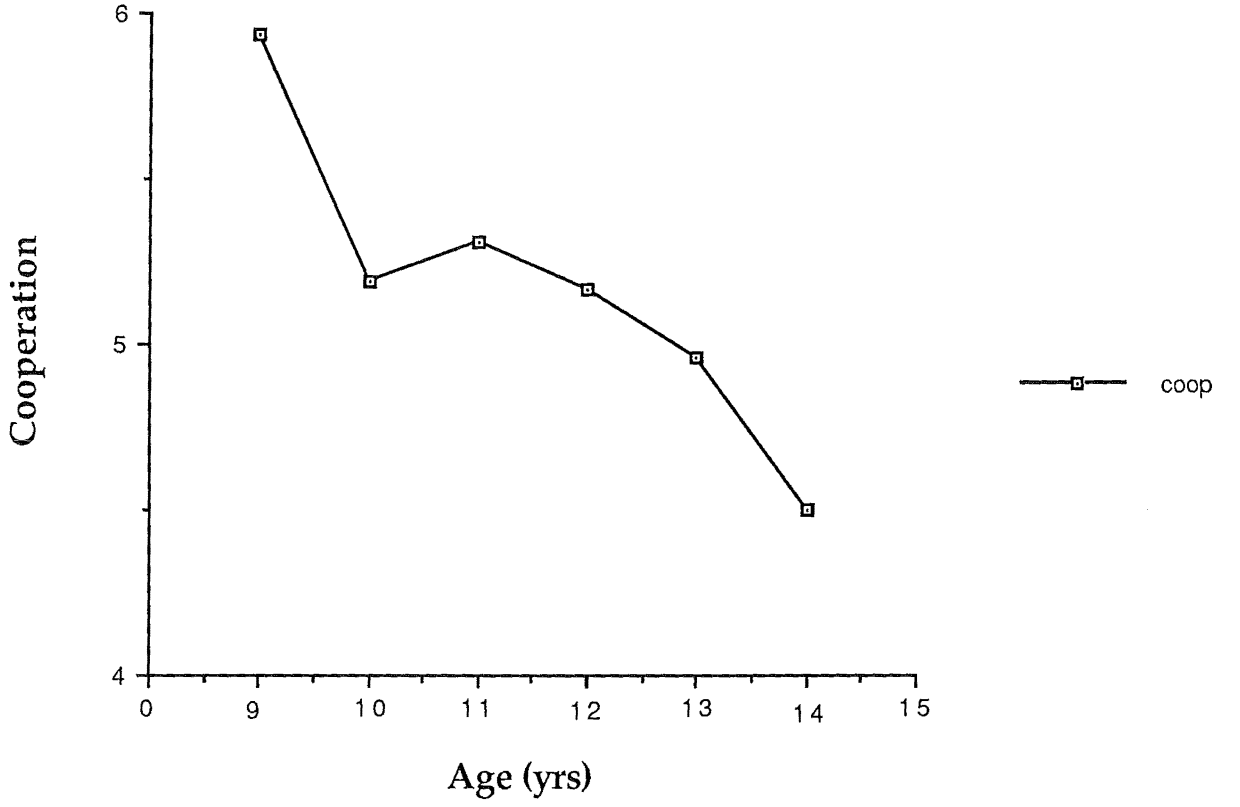


Table 13.3: Mean Scores for Noncompetition

AGE (years)	COUNT	MEAN
9	16	6
10	142	5.35
11	101	5.56
12	158	5.66
13	49	5.59
14	2	5.5

The 9 year olds had the lowest noncompetitive score, with the 10 year olds scoring the highest. These differences were not significant however.

Table 13.4: Mean scores for Noncooperation

AGE (years)	COUNT	MEAN
9	16	10.31
10	142	10.47
11	101	10.18
12	159	10.7
13	49	10.88
14	2	10.5

The analysis of variance computed for the noncooperation construct yeilded no significant differences.

Figure 11: Mean Scores for Noncompetition for Ages 9-14 years

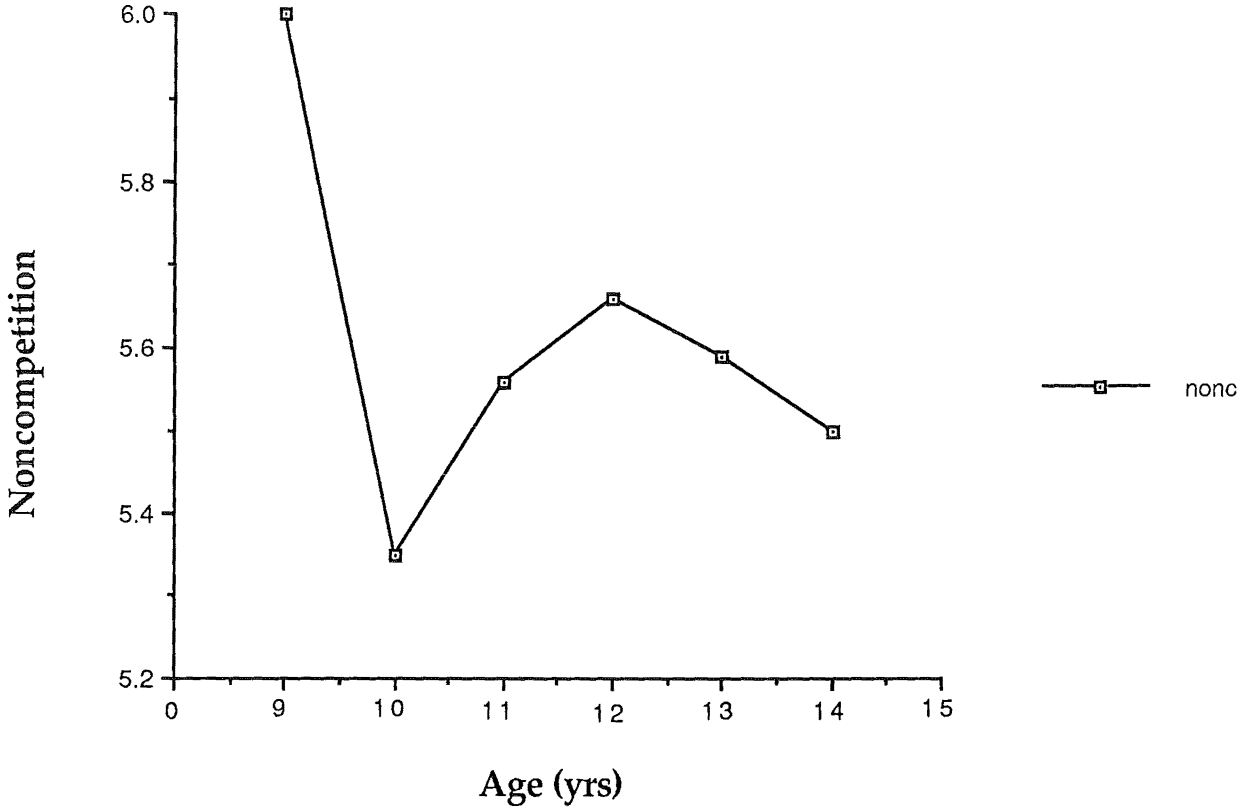


Figure 12: Mean Scores for Noncooperation for Ages 9-14 years

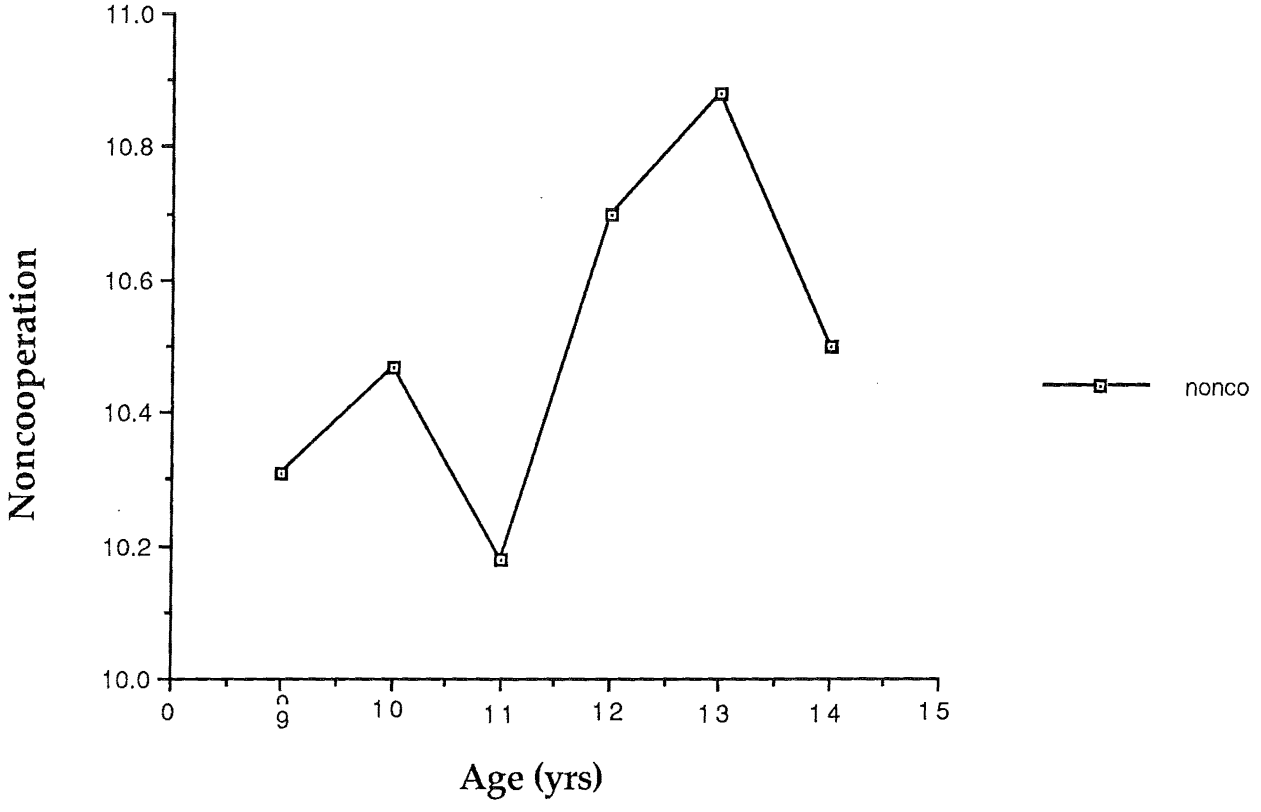


Table 13.5: Mean Scores for Intrinsic Motivation

AGE (years)	COUNT	MEAN
9	16	3.56
10	141	3.51
11	99	3.66
12	160	3.67
13	49	3.49
14	2	3.5

The analysis of variance found no significant differences for the intrinsic motivation construct.

Table 13.6: Mean Scores for Nonintrinsic Motivation

AGE (years)	COUNT	MEAN
9	16	7.94
10	142	7.99
11	100	7.98
12	160	7.99
13	48	7.88
14	2	8.5

The analysis of variance computed for the nonintrinsic motivation construct found no significant differences.

Figure 13: Mean Scores for Intrinsic Motivation for Ages 9-14 years

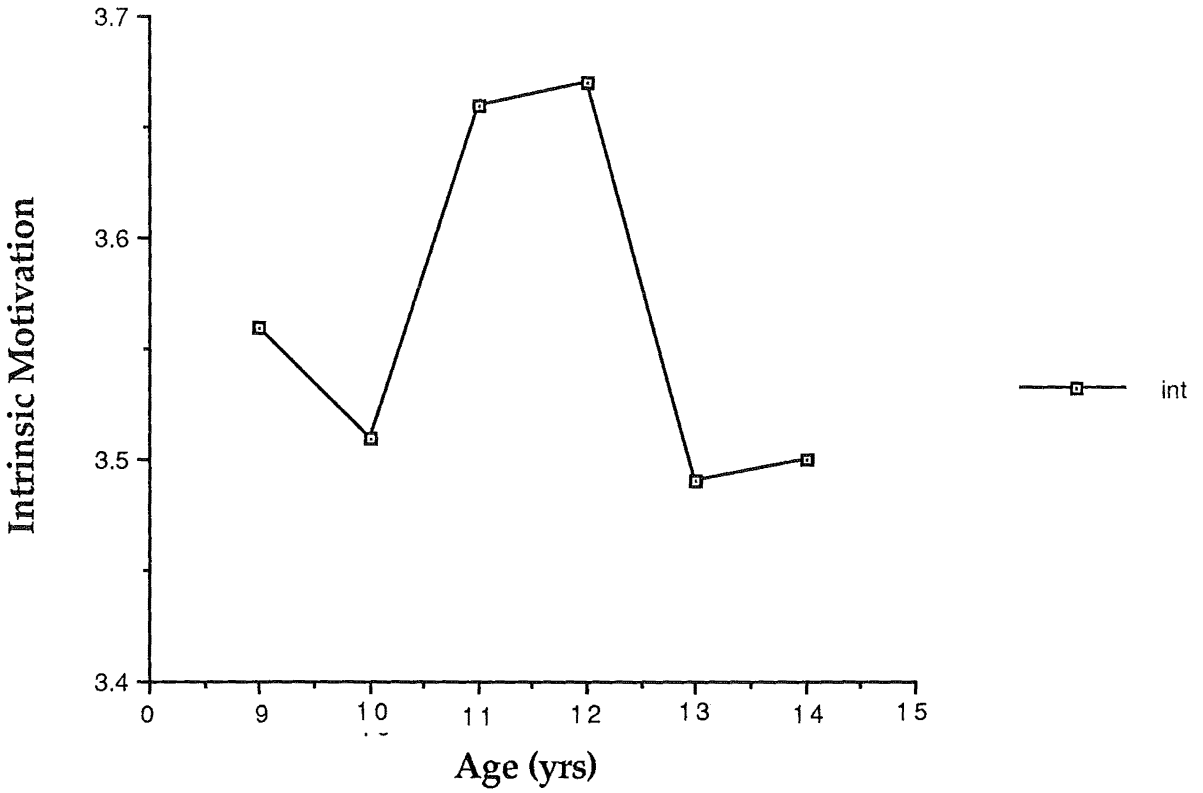


Figure 14: Mean Scores for Nonintrinsic Motivation for Ages 9-14 years

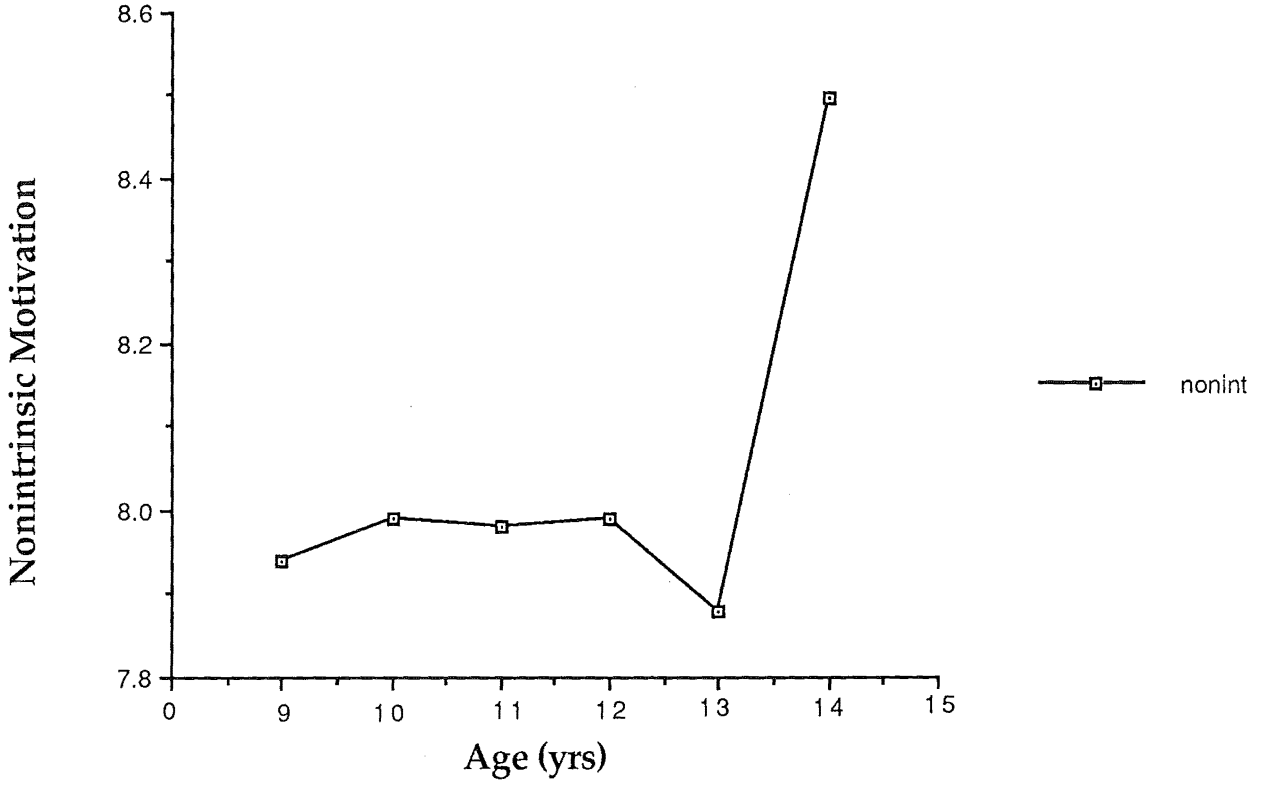


Table 13.7: Mean Scores for Task Orientation

AGE (years)	COUNT	MEAN
9	16	9.38
10	142	8.23
11	101	8.69
12	160	8.36
13	49	8.37
14	2	9

There were no significant differences found for the task-orientation construct.

Table 13.8: Mean Scores for Ego Orientation

AGE (years)	COUNT	MEAN
9	16	14.19
10	142	14.28
11	101	13.53
12	160	13.67
13	49	14.04
14	2	15.5

The analysis of variance yeilded no significant differences for the ego-orientation construct.

Figure 15: Mean Scores for Task Orientation for Ages 9-14 years

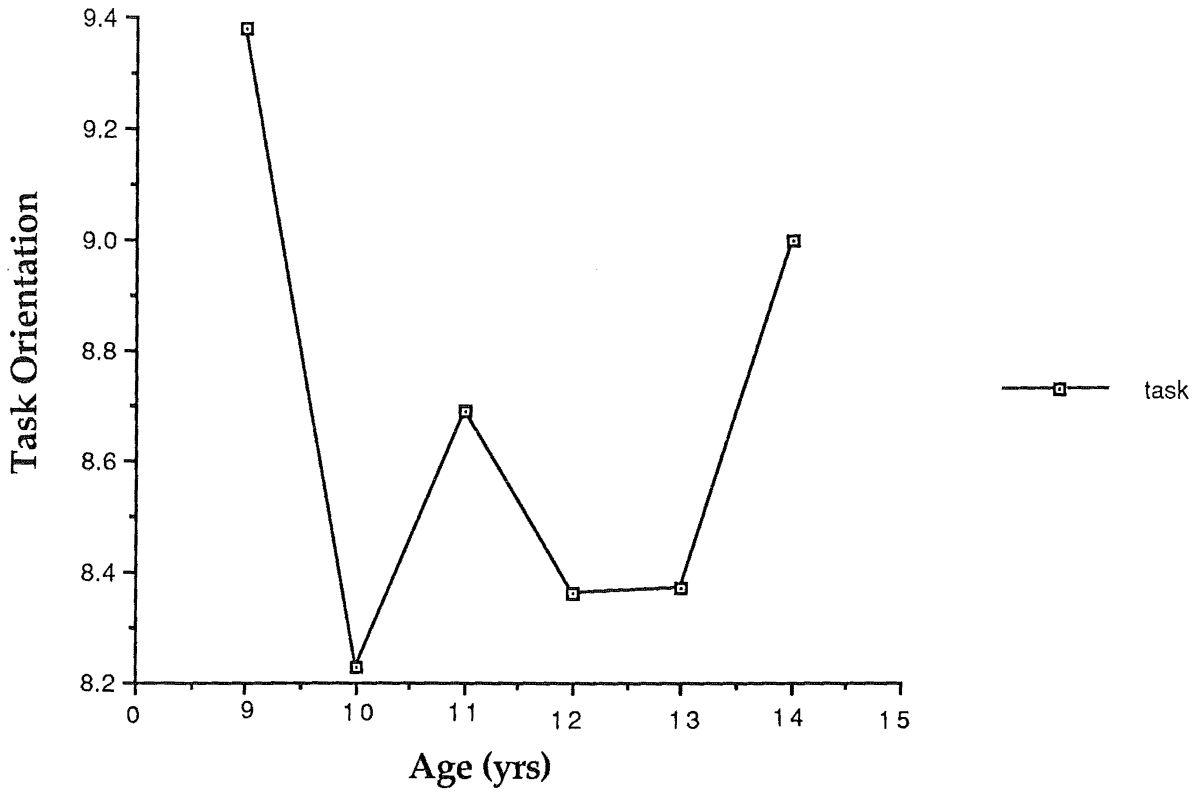
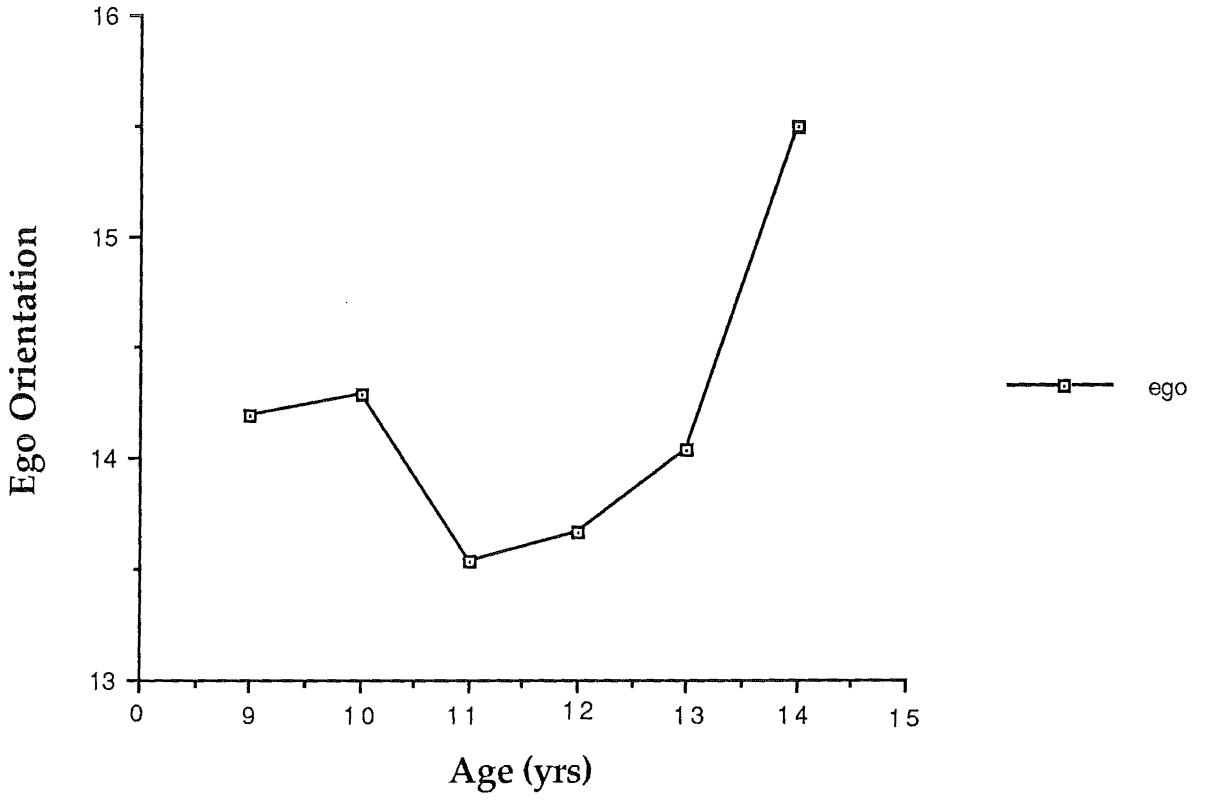


Figure 16: Mean Scores for Ego Orientation for Ages 9-14 years



4.10 Age x Sex Study

Each construct was then analysed in a two-factor (age x sex) Analysis of variance to look for any interaction between these variables. This calculation was also used to test hypotheses:

15/ Males will be more competitive as they get older.
16/ Females will be more cooperative as they get older.

Competition

A 6(age) x 2(sex) ANOVA revealed a significant main effect for age $F(5,458)= 6.058$, $p<.0001$. The main effect for sex was not significant. The sex x age interaction was also not significant. The main effect for age was earlier reported, with the nine year olds scoring significantly higher on this construct than the eleven and twelve year olds, and the ten year olds scoring significantly higher than the eleven, twelve, and thirteen year olds.

Cooperation

A 6(age) x 2(sex) ANOVA did not yeild a significant main effect for age , or sex. The interaction effect for sex x age was also not significant.

No significant effects were found for the other 6 constructs.

4.11 School x Sex Study

A two-factor (school x sex) Analysis of variance was then computed for each construct to detect any interaction between these variables.

Competition

A significant main effect for school was found $F(3,460)=3.225$, $p< .0224$. The main effect for sex was not significant. The school x sex interaction effect was also not significant. The main effect for school was earlier reported with school 2 scoring higher on competition than school 1, school 3 and school 4. School 2 was also found to be significantly more competitive than school 5 ($m=8.622$) on both the Fisher PLSD test ($F=.75$, $p<.05$) and the Scheffe F-test ($F=2.401$, $p<.05$). School 2 also scored significantly higher on this construct than school 6 ($m=9$) on both the Fisher PLSD test ($F=.831$, $p<.05$) and the Scheffe F-test ($F=3.234$, $p<.05$). School 3 was also significantly more competitive than school 6, according to the Fisher PLSD test ($F=.656$, $p<.05$).

Noncompetition

A significant main effect for school was found $F(3,458)=2.545$, $p<.055$. The main effect for sex was not significant. The school x sex interaction effect was also not significant. The main effect for school was reported previously, with school 2 scoring significantly higher on this construct than both school 3 and school 4. It was also found that the all-girls school, school 6 ($m=5.273$) was significantly more noncompetitive than school 4 ($m=5.754$; $F=.466$, $p<.05$) according to the Fisher PLSD test.

No other significant interactions were found for the other 6 constructs.

CHAPTER FIVE

DISCUSSION

5.1 Reliability

Test-retest 1

The first reliability check, with a 4-week interval, found the competition, cooperation, and noncooperation constructs to lack a significant correlation between the first and second administrations of the questionnaire. All the other constructs were significant.

Test-retest 2

The second reliability check, with a 3-week interval, found all the constructs to have a significant correlation between the two administrations of the questionnaire.

It would seem that a three week interval is more appropriate for children of this age group. A longer interval would bring in too many other variables for a developing child who's ideas and attitudes are constantly changing.

5.2 Questionnaire Constructs

Like Stockdale, Galejs & Wolins (1983) there was a lack of significant correlation between competition and cooperation, suggesting that the two are independent constructs. Unfortunately, Stockdale et al did not state whether their constructs cooperation-noncooperation and competition-noncompetition had any significant correlations. In the present study coop-nonco had a significant negative correlation, and comp-nonc were also negatively correlated although this was not significant.

It was expected that these constructs would have a negative correlation, however as they were presented as independent constructs this could not be assumed.

The hypothesis that cooperation, intrinsic motivation and task orientation would all be positively correlated was supported. This also offers further support for Duda & Nicholls (1989) research. However, only partial support was found for the hypothesis that competition, ego orientation and nonintrinsic motivation would have a significant positive correlation. Competition and ego involvement were positively correlated, but competition did not significantly correlate with nonintrinsic motivation. The correlation between ego orientation and nonintrinsic motivation was also not significant.

A significant negative correlation was found between nonintrinsic motivation and task involvement. This gives further credibility to Duda & Nicholls (1989b) finding that task-involvement negatively correlates with the reported experience of boredom in sport.

As task-orientation, intrinsic motivation and cooperation were all positively correlated this not only supports the theory but also the construct validity of the questionnaire. That is, the variables relate to each other as both the theory and previous research suggested, indicating good construct validity.

Item Total Correlations

The correlations between items in each construct are not usually high as each item is measuring its own unique content as well as the general underlying attitude. However, the check carried out on this questionnaire was promising. All items in each construct were found to be significantly correlated.

5.3 KiwiSport Study

Cooperation

The scores for the cooperation construct supported the theory that strong KS schools would be more cooperative than the weak KS schools. Strong school 1 was significantly more cooperative than school 3, and school 4 also had a more cooperative score than the two weak schools, although this was not significant. The fact that the range of cooperative scores was high (4.973-5.482) indicates that children from these schools generally have a cooperative attitude towards sport, which is a very positive outcome from this study.

The literature stressed the benefits of a cooperative structure in sport for encouraging shy and withdrawn children to participate (Orlick,1981). This

cooperative attitude in schools should also help increase all children's confidence and self esteem, not only in sport, but in many other areas.

Competition

The fact that the weakest KS school (school 2) was found to be significantly more competitive than the other three schools offers partial support for the hypothesis that weak KS schools will be more competitively orientated than strong KS schools. The other weak school, however, did not show this effect. But on the item analysis school 3 did score significantly higher on item comp 3 than school 1 and school 4. This item "After a running race the winners name should be announced so that everybody knows who was best" may be confounded with extrinsic motivation however.

For item comp 1 school 2 was significantly higher than school 3 and school 4. Surprisingly, on items comp 2 and comp 4, school 2 scored significantly higher than school 3.

This result was obviously not expected and suggests that school 3 may not be as competitively orientated as any of the other three schools. Maybe the children at school 3 are more extrinsically motivated than the two strong KS schools, but not necessarily more competitive.

When the two weak and two strong KS schools data were pooled and then analysed, there were no significant differences found for the competition construct. However, the weak KS schools did score significantly higher on item comp 3 than the strong KS schools.

The general lack of finding that KS is decreasing the win-at-all-costs attitude coincides with the earlier work by the Social Research Services (1989) on the effects of KS. They failed to find evidence that KS was decreasing the win-at-all-costs attitude in sport.

Noncooperation

School 1 and School 4 scored significantly higher than School 3 on this construct. This is surprising for school 1 and school 4 also scored higher on cooperation than the other two schools. However, previous research has also found an increase in cooperative responses to be accompanied by an increase in noncooperative responses (eg. Brotsky & Thomas, 1967), so this result was not wholly unexpected.

When the weak and strong KS schools data were combined the two strong KS schools were found to score significantly higher on item nonco 1 "If the coach doesn't let me play where I want to play, then I won't play at all" than the two weak KS schools. The reason why the strong KS schools scored higher on this item is unclear. However, some students found the wording of this question difficult, and this may have effected the result.

Noncompetition

School 2 was significantly more noncompetitive than school 3 and school 4. This is interesting as school 2 was also the most competitive school. However, as stated above, similar results have been found by other investigators, and this suggests that the two are independent constructs. These results also indicate

that people can be high or low on all four variables (competition, noncompetition, cooperation, noncooperation).

Intrinsic Motivation

Strong KS school 1 was found to score significantly higher on the intrinsic motivation construct than weak KS school 3. This offers partial support for this hypothesis. Weak KS school 3 also scored significantly less on item int 2 "The best part of a game is being able to play and have fun with my friends" than the other 3 schools. All schools were found to score high on intrinsic motivation however, with a range between 3.32-3.69. This result is a very positive outcome from the study and supports the literature that children do tend to enjoy sport.

When the two weak and two strong KS schools data were pooled and then compared, the strong KS schools were found to score significantly higher on item int 2 than the weak KS schools.

Nonintrinsic Motivation

There were no significant differences found between the schools for nonintrinsic motivation. All schools had a very low score for this construct with a range of 7.78-8.21. This is a very encouraging result as it indicates a lack of boredom for sport by all four schools.

Task Involvement

The fact that there were no significant differences between the KS schools suggests that KS is not influencing the achievement goals of the students. However, all schools scored high on task-involvement so there must be a reason for this result. It is possible that NZ schools are setting a task-orientated environment and this is influencing the goal orientation of the students.

Ego Involvement

There were no significant differences between the schools for ego-orientation, which refutes the hypothesis that weak KS schools would be more ego-orientated. However, all schools scored low on this construct (range = 14.032-14.316) which is surprising. The literature indicated that children of this age group (9-14 yrs) are greatly influenced by social comparison and doing better than others. Perhaps NZ children are less ego-orientated than US children due to a different socialisation process.

Conclusion

KS does appear to be influencing the cooperative attitudes of children in sport. However there was only partial support that it is affecting competitive attitudes or intrinsic motivation. KS does not appear to be influencing goal orientations in this sample of schools. Neither does it seem to be affecting nonintrinsic motivation. The fact that the two strong KS schools were found to be more noncooperative, and the weakest KS school more noncompetitive, would be worth further investigation.

5.4 Sex Difference Study 1

Competition

Both genders indicated a similar preference for competition (females m score=8.62; males m score=9). Males were found to be significantly more competitive than females on only 1 item- comp 1. The fact that there were no other significant differences in competitive preferences coincides with Stockdale, Galejs & Wolins (1983) findings. It seems likely that a competitive attitude is no longer considered as such a male-orientated domain. Indeed in this study females had a slightly higher score for competition.

Cooperation

There were no significant differences between the genders for cooperation which refutes the hypothesis that females would be more cooperative than males. This finding is surprising as the literature indicated a female preference for cooperation. However as both genders scored high on cooperation (females m score=5.07; males m score=4.85) it is likely that it is the males cooperative orientation which may be changing. Indeed, while females were found to score slightly higher on competition, males were found to score slightly higher on cooperation. This suggests that the sex role stereotype may be undergoing some radical changes.

Noncompetition

There were no significant differences found between the genders for the noncompetitive construct. However on item nonc 1 "It does not matter if my team loses so long as we all tried hard" females scored significantly higher. For this question the element of trying hard (effort) was prominent and it is possible that females place greater value on this.

Noncooperation

Males were found to score significantly higher on the noncooperative construct than females. This is interesting as females were predicted to be more cooperative which was not substantiated, however they were found to be significantly less noncooperative. Males also scored significantly higher on items nonco 2 and nonco 3, than females. These results appear to indicate that males have a more noncooperative attitude towards sport.

Intrinsic Motivation

There were no significant differences between the genders for this construct (females m score=3.6; males m score=3.6), or for the individual items. This indicates that both genders are enjoying sport equally.

Nonintrinsic Motivation

Both genders indicated the same general level of nonintrinsic motivation (males m score= 8; females m score=7.83). It was suggested by many lay people that females would score higher on this construct, so this is a particularly encouraging result.

Task Involvement

Females were found to be significantly more task-orientated than males which supports this hypothesis. Both genders, however, had high scores for this construct (females m score=8, males m score=8.77).

Ego Involvement

There were no significant differences between the genders for ego-orientation (females m score=13.21; males m score=13.58) which refutes the hypothesis that males would be more ego-orientated.

5.5 Sex Difference Study 2

When all 6 schools data were analysed for an overall sex difference it was found that males (mean=13.62) scored significantly higher on ego-orientation than females (mean=14.2), which was predicted. Males (mean=10.38) also scored significantly higher on noncooperation than females (mean=10.68). On

the other hand, females (mean=5.4) were found to be more noncompetitive than males (mean=5.71).

The significant differences between the genders follow the traditionally reported sex role stereotypes. However, in the overall study, the similarities between the sexes must outweigh the differences. This suggests that gender differences are on the decline.

5.6 Age Difference Study

Competition

There appeared to be a trend for a less competitive score the older the child. Nine year olds scored significantly higher on competition than the eleven and twelve year olds. Ten year olds scored significantly higher than the eleven, twelve and thirteen year olds. This result is surprising for the literature indicated that children tend to get more competitive as they get older. A growing awareness that a win-at-all-costs attitude in sport is no longer acceptable in the school environment may account for this result.

Cooperation

A trend in the data was for a more cooperative score the older the child. These results were not significant however. The literature indicated that children get more cooperative as they get older. This appears to be the case in the present study although there was a very high score for cooperation for all ages (range=4.5-5.94).

Noncompetition

There were no significant differences found for the noncompetition construct. The surprising discovery was that the nine year olds scored highest on noncompetition, as well as on competition. This relates back to the earlier findings in the Kiwisport study and will be further discussed in the critique section. There was a very close range of scores for this construct (5.35-6), with all age groups showing a noncompetitive preference.

Noncooperation

All age groups indicated a similar preference for noncooperation, with all ages having a low score (range=10.18-10.88). There were no apparent trends in the data, and no significant results. It can therefore be concluded that in this sample, the subjects at all ages, generally disagreed with a noncooperative attitude.

Intrinsic Motivation

There were no significant results found for intrinsic motivation. However, all ages had a very high score (range=3.49-3.67). It is encouraging that all ages responded positively to sport.

Nonintrinsic Motivation

There were no significant differences found for nonintrinsic motivation. The range of scores were 7.94-8.5, indicating a general lack of boredom in sport for all age groups.

Task Involvement

There were no significant differences between the ages for task-involvement. The range of scores were 8.23-9.38. These are very high scores (eg. task-involvements possible range is 7=high and 21=low). The data did not indicate any marked change in task-involvement for any age.

Ego Involvement

All age groups had a low score for the ego-involvement construct with no significant differences. The range of scores were 13.53-15.5. (The possible range of scores for ego-orientation is 6=high and 18=low). This is surprising as it was thought that subjects would become increasingly more ego-involved as social comparison became more important to them. This indicates that social comparison may not have the same significance for this group of subjects as it does for US children. This finding is in obvious need of further investigation.

5.7 Age x Sex Study

It was hypothesised that males would be more competitive as they got older, and that females would be more cooperative as they got older. These hypotheses were not supported by the data analysis however.

Indeed, both genders were found to have a decreasing score for competition. It is suggested that this is due to the social learning that a win-at-all-costs attitude is no longer acceptable in sport.

The fact that there was no marked leap in females' cooperative scores in the present study could be due to the age of the subjects (9-14 years, with only one female subject of 14 years). It is possible that around the age of 14-15 years there would have been more of an effect. However, the results of this study certainly suggest that females may no longer be going through such an intense process of reorganising their sex role identification, due to the decline in sex role stereotyping.

4.8 General Conclusion

This study was an attempt to move an existing theory forward- Duda & Nicholls (1989), and also to find further reliability for the Task and Ego Orientation in Sport Questionnaire. The test-retest reliability checks lend further support for these scales, with both the three week and the four week intervals finding significant reliability correlations. Task-involvement was also found to positively correlate with intrinsic motivation, and to negatively correlate with nonintrinsic motivation. Both these findings were predicted from the theory. However, ego-involvement was not found to positively

correlate with nonintrinsic motivation. Therefore, this particular aspect of the theory wil require further investigation..

The results from the present research suggest that the representative sample of New Zealand children are primarily task-orientated. However, as the six schools in this study were from the Christchurch area there could be wide differences throughout the country (although there is no reason to suggest that this would be so).

The fact that all 6 schools scored high on cooperation suggests that these schools are encouraging a cooperative attitude. Indeed, investigation into this area revealed an increasing awareness amongst the NZ Education System of the benefits of a cooperative learning structure in the classroom. Teachers are trained at college to bring cooperative learning into the classroom, and courses are being run on this as an individual subject. Most classrooms have manuals to guide the teachers from the traditional competitive learning structure to the more cooperative learning structure.

The students' responses to the questionnaire and also their general attitude in the classroom during the visit, indicated that these schools are achieving a very cooperative body of students.

As New Zealand schools are now practicing a more cooperative approach in both the classroom and in the game situation, there is a decreased emphasis on 'winning'. All students have the opportunity to gain cards for reaching their own personal achievement levels. Students are looked at as individuals rather than in comparison with one another, or as the 'top' subject.

These information cards coincide with Deci's cognitive evaluation theory that if children are given rewards which provide positive information this will enhance their feelings of competence and this will also increase intrinsic motivation. There have also been attempts to minimise the controlling aspects of rewards such as trophies and stressing the importance of playing the game for the enjoyment rather than for extrinsic gains. This new approach by NZ schools coincides with the finding in the present research for very high intrinsic motivation for sport by all six schools, and also very low nonintrinsic motivation.

5.9 Critique

The findings of the present study must be interpreted tentatively due to the limitations of the questionnaire.

The social desirability factor cannot be ruled out despite the anonymity of the subjects. The children may have been unwilling to admit certain attitudes because they are not considered socially acceptable. As the answers to cooperation, intrinsic motivation and task-involvement were all very high, this must be considered. More optimistically, it could well be the case that children in these schools have a very positive attitude towards sport. Certainly, the majority of answers suggests that the children of this sample had a very favourable attitude towards sport, which is encouraging.

Some of the questions may not have been measuring what they purported to measure. For example, item comp 3 "The most important part of the game for me is to score as many points as possible", may be confounded with individualism and should therefore be eliminated from the questionnaire.

An analysis of variance was carried out on this question to assess whether females scored higher than males, in support of Knight & Kagan (1981) theory that females are more individualistically orientated than males. However, no gender differences were found. This suggests that females may not be more individualistically orientated than males. More research is obviously needed in this area to determine the validity of this result.

All items on the Sports Attitude Questionnaire 1 relate to team sport, apart from question 10 (comp 3) " After a running race the winners name should be announced so that everybody knows who was best". Running is an individual sport, unless it is a relay race, and it is possible that this may have brought in different variables. This question is also confounded with extrinsic motivation, so it is suggested that this item also be removed from the instrument.

Some children found the item nonco 1 " If the coach doesn't let me play where I want to play, then I won't play at all" confusing and were unsure how to give their chosen response. Unfortunately this was not discovered in the pilot study. This question should be revised to make the wording clearer eg. I refuse to play if I cannot play in my preferred position".

Two of the items were found to present more than one idea- eg. " I prefer to practice by myself to make myself better than my friends". Some children had difficulty with this question as they did prefer to practice by themselves, but not because they wanted to improve themselves over their friends. Likewise, item comp 3 " After a running race the winners name should be announced so that everybody knows who was best". A few individuals felt that the winners name should be announced , but not for the reason that "everybody should know who was best". Students were told to only tick 'YES" if they agreed with

the whole statement, however it is likely that some students still found the meaning ambiguous.

The scoring of this questionnaire may also be susceptible to acquiescence (yea-saying). That is, if an individual was to answer 'yes' to each question they would come out high on each construct. Likewise if they were to respond 'no' to each item they would appear low on each construct. This was possibly the reason for school 2 scoring significantly higher on both competition and noncompetition, school 1 and school 4 scoring higher on cooperation and noncooperation, and the nine year olds scoring higher on competition and noncompetition. This bias could be overcome by balancing the questionnaire so that an equal number of items are positive and negative.

5.10 Suggestions for Future Research

This questionnaire only had 4 questions each for the constructs comp, nonc, coop, nonco; and only 3 questions each for the constructs int and nonint. This was because all these constructs were wished to be covered and the questionnaire did not want to be too long, in case the children lost interest in it. However, in future studies it would be useful to include more items in each construct, and have less constructs. This would mean that the index for each construct was not as influenced by the wording of particular questions. This would also increase the content validity of the questionnaire.

Unfortunately, the fact that children answered this way does not necessarily mean that they will behave this way. In the words of the 17th-century French writer La Rochefoucald "It is easier to preach virtue than to practice it". To determine whether children are actually behaving more cooperatively a

behavioural observation study could be carried out. This would also allow the criterion validity of the questionnaire to be checked by comparing the children's responses to the questionnaire with a direct measure of the concept of interest eg the observation of cooperative behaviour.

After presenting the questionnaire to the schools and getting verbal feedback from the students it was felt that the inclusion of an open-ended question would have been both interesting and useful to the research. A question asking the children to express in their own words how they feel about sport, and what they think are the most important aspects of being involved, could be very enlightening.

For example an open-ended question beginning " I feel most successful in sport when...? could prove interesting if given sometime after the children have completed the Task-and-Ego-orientation Questionnaire. It is speculated that the child who answered 'no' to " I feel most successful in sport when I am the best" may well respond to an open-ended question with the answer " I feel most successful in sport when I win".

This is obviously a hazard with using close-ended questions. The respondents have the answers right in front of them and are able to select the answer that they feel is best, although it may not be the most truthful.

Future studies would definetly benefit from the inclusion of a measure of social desirability. This would assess whether the favourable responses of the children to sport were actually due to their desire to please and impress others, rather than an indication of their true feelings.

This questionnaire did not give any clue as to the intensity of the child's views. Although the teachers did not recommend it for this study, it is felt that a Likert scale to measure the strength of response would be useful. This would introduce the problem of extremity response set however, which is what the teachers felt would be a problem, with children of this age group. However, by balancing the questionnaire so that an equal number of items were positive and negative, this problem could be overcome.

It would also be interesting in future studies to compare the ethnic background of the children, to see whether Pakeha children's responses were more competitively orientated, and Maori and Polynesian children more cooperatively orientated. It is hypothesised that the new cooperative structure in schools will lead to all children developing a more cooperative and less win-at-all-costs attitude.

Galejs, Stockdale & Wolins (1980a, 1980b, 1982) found that parents recognised the cooperative-competitive stance of their children. It would be interesting to check whether this was the case in future studies. This would also determine whether the children's responses to the questionnaire were reflected in their behaviour at home and in out-of-school activities.

A longitudinal study on KiwiSport throughout New Zealand should be conducted to further determine the effects of this Sports Education Programme. Future research should attempt to control for such variables as cognitive maturity, years of experience in sport, and competitive levels reached in sport. Obviously the amount of cooperation, competition, task-involvement, and ego-involvement in the classroom will also have influenced the children's answers in the present study. All these variables should be controlled for in order to eliminate potential sources of error.

5.11 Implications

Environments which are characterised by learning new skills and improving ones own performance are likely to evoke task-involvement (Ames & Archer,1988; Nicholls, 1989). As the students in the present study had very high task-involvement it suggests that these six schools are all providing a task-involved environment.

However, as there were no significant differences between the weak and strong KS schools this high task-orientation may well be coming from the classroom. Whatever the origin of this goal orientation, it bodes well for the future. Nicholls & Maehr (1980) suggest that past involvement in predominantly task-or-ego-involvement situations may relate to one developing a personal disposition toward mastery or social comparison-based goals.

Dweck & Leggett (1988) suggested that children's achievement goals may explain the drop-out rate in sport. As all six schools scored high on task-involvement and also very high on intrinsic motivation, combined with low ego-orientation, it is likely that these schools will have a very low drop-out rate in sport. Indeed, it is hopeful that there is a low drop-out rate in sport throughout New Zealand.

High task-orientation combined with high intrinsic motivation is also a good basis for the development of a life-long commitment to sport.

It is likely that the message for cooperation and fairplay in sport has been getting through from both the Education System and by the media. Recently

advertisements have been run on television decrying the win-at-all-costs attitude of children in sport. There is a campaign from the Hillary Commission to decrease aggressive behaviour in sport.

Another example of the medias influence was the TVNZ commentators for the 1992 Olympic games eg. " NZ athlete did not make the finals but did break their own personal record, which is a marvellous achievement and he/she will be very pleased with that". This was frequently heard during the games and is an excellent example of task-orientation rather than ego-orientation. This style of commentary sets a very good example for children. It teaches them that it is their own personal best which is most important.

There has also been a lot of coverage in the news of the intolerance of aggressive play in professional sport. For example, an eye-gouging incident in a professional rugby match met with the player being heavily fined and banned from the game for a substantial period of time. This received wide coverage in the media and brought forward the issue of eliminating aggressive and unfair play in sport. The power of the media is enormous and such coverage cannot help but influence parents, coaches and teachers to encourage children to play 'fair'.

Children should be taught that so long as they try hard and do their best then they are never 'losers' (ie. success is related to effort). As a major source of stress for children in competitive sport is the fear of failure, this knowledge should help alleviate this fear.

The fact that there were such varying results with regard to the constructs cooperation, competition, noncooperation, and noncompetition suggests that they are all best considered as independent constructs. Indeed it seems likely

that one's personality can combine all these attitudes, and which behaviour is actually elicited in a given situation will depend on many different variables.

As there was an overwhelming response towards cooperation it is hopeful that handicapped children, and students from different ethnic backgrounds are accepted and well-liked within their peer groups.

Further, it is likely that children who are not as physiologically mature as their peers will not be so disadvantaged in the cooperative structure. This is due to other aspects of sport eg. having fun and trying hard, being more important than 'winning' and 'beating' their peers.

Jensen & Moore (1977) found evidence that cooperation and/or competition can become an enduring personality trait. It is to be hoped that the children in this study will indeed retain a cooperative attitude which will enhance their lives, and their relationships with other people. This in turn may lead to a more cooperative and integrative community.

5.12 Conclusion

Youth sport should be a valuable developmental experience. It is an ideal arena to learn the meaning of winning, losing, success, failure, anxiety, rejection, fair play, acceptance, friendship, cooperation and healthy competition (Orlick, 1981). It can also help increase children's awareness of their own feelings and also to be more sensitive to the feelings of others. The students in the present study appear to be both enjoying sport, and to be developing very prosocial values. There is not much more which could be asked from sport.

In these times of increasing unrest in society eg. Bosnia, USA, South Africa, one of the most valuable skills children can learn is to cooperate and to get along well with others. Indeed society cannot exist without cooperation. More locally, better cooperative skills could help bridge the ongoing rift between the Maori and Pakeha of New Zealand.

Although the current evaluation of the New Zealand Sports Education Programme -KiwiSport-did not find overwhelming evidence to support this programme there was overwhelming support that this sample of schools were all cooperatively orientated, had high task-involvement, combined with high intrinsic motivation. This is a very good indicator that these children will develop a life-long commitment to sport.

However, further research is obviously needed in KiwiSport to determine whether this sports education programme is helping to achieve this very positive outcome.

It is an exciting time in New Zealand sport. It is a time to test existing programmes, to collaborate new ideas, and to push forward the realm of the developing child in sport.

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SPORTS ATTITUDE QUESTIONNAIRE

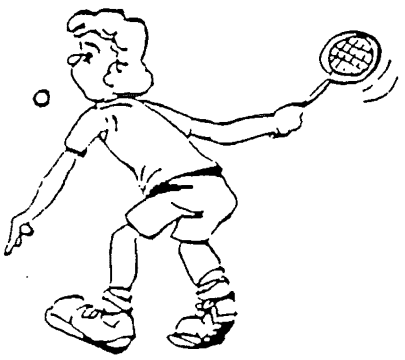
AGE: ____ yrs
SEX: Male / Female

This questionnaire is designed to assess your attitudes toward sport.
Please read each question carefully and then answer as honestly as you can. There are no right or wrong answers so just choose the answer that is best for you. I want to know how you feel about sport so please do not look at anybody else's sheet.

An example is given below

	YES	MAYBE	NO
There should be a reward given for being the best athlete.			

Please tick the box that best describes how you feel.
eg. If you think the best athlete should get a reward then tick YES, if you don't think the best athlete should get a reward then tick NO, if you do not strongly agree or disagree, or if you are not sure, then tick MAYBE.



SPORTS ATTITUDE QUESTIONNAIRE 1

	YES	MAYBE	NO
I think the best players in a team should always play in the positions where they can score the most points.			
I usually go along with team decisions and try to help out.			
The most important part of the game for me is to score as many points as possible.			
It does not matter if my team loses so long as we all tried hard.			
If the coach doesn't let me play where I want to play then I won't play at all.			
I think it is important to pass the ball to all players rather than just to the better players.			
In sport I often daydream instead of thinking about what I am doing.			
I prefer to practice by myself to make myself better than my friends.			
I think sport is great fun and I like to play in my free time.			
After a running race the winners name should be announced so that everybody knows who was best.			

	YES	MAYBE	NO
I would rather play in a losing team than sit on the sidelines of a winning team.			
When playing sport I usually wish that the game would end quickly.			
I like to help my friends who are not as good in sports as me.			
If the practice time was changed without checking with me, I probably would not go.			
The best part of a game is being able to play and have fun with my friends.			
I like to cheer all good play even if it is by the opposition.			
I like to keep score during practice to see who gets the most goals/points etc.			
I think all players should have turns playing in different positions even if they are not very good.			
I am usually bored when playing sport.			
If I don't go to practice then someone who did go should be allowed to play instead of me.			
If I don't like the other people in my team, I'll try to get out of playing.			
I feel satisfied after an exciting game game of sport, whether I win or lose.			

SPORTS ATTITUDE QUESTIONNAIRE 2

I feel most successful in sport when....

	YES	MAYBE	NO
I learn a new skill and it makes me want to practice more.			
I'm the only one who can do the play or skill.			
I can do better than my friends.			
I learn something that is fun to do.			
I learn a new skill by trying hard.			
The others can't do as well as me.			
Something I learn makes me want to go and practice more.			
Others mess up and I don't.			
I work really hard.			
I score the most points/goals etc.			
I'm the best.			
A skill I learn feels really right.			
I do my very best.			

You have now finished the questionnaire. Please go back and check that you have answered all of the questions.
Thank-you very much for your time and effort.